START

Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

9400671

JAN 24 1994

94-ERB-040

Mr. Dennis J. Cannon
U.S. Army Corps of Engineers
Hanford Program Office, MSIN A5-20
Richland, Washington 99352

Dear Mr. Cannon:

EXCAVATION PERMITS FOR U.S. ARMY CORPS OF ENGINEERS (USACE) WORK ON THE 1100 AREA, ARID LANDS ECOLOGY (ALE) FACILITY, AND NORTH SLOPE

Effective immediately, USACE is no longer required to obtain excavation permits from Westinghouse Hanford Company (WHC) for work on areas not managed by WHC. This includes the North Slope, the ALE, and the 1100-IU-1 Operable Unit located on the ALE. However, you are still required to obtain the necessary National Environmental Policy Act, cultural resource clearances, and ecological resource surveys follow the USACE "Safety and Health Requirements Manual" (EM 385-1-1) dated October 1, 1992, and interface with the cognizant facility manager which, in the case of the ALE, is Mr. Lee Rogers, Pacific Northwest Laboratory, on 376-8256.

Since work on the 1100-EM-1, EM-2, and EM-3 Operable Units will be performed in WHC-managed areas, you will still be required to obtain excavation permits in accordance with WHC's manual WHC-CM-8-7, Section 503.1, Revision 1, dated April 3, 1992. Some of the reasons for obtaining the excavation permits are to make sure that no underground utilities or adjacent facilities are affected by the construction work and that the appropriate WHC facility manager is informed about the nature of the work. Your various points of contact at WHC for obtaining 1100 Area excavation permits are defined in the WHC manual.

If you or your staff have any questions about this, please contact Mr. Walter D. Perro on 372-3704.

Sincerely,

Julie K. Erickson, Director
Environmental Remediation Division

END:WDP

cc: R. Chong, USACE
J. A. Gardner-Clayson, USACE
W. L. Johnson, WHC
G. V. Last, PNL
L. E. Rogers, PNL
T. M. Wintczak, WHC
M. K. Wright, PNL

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2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	Groundwater Well Services	N/A
5. Proj./Prog./Dept./Div.:	6. Cog. Engr.:	7. Purchase Order No.:
Environmental Restoration	M. G. Gardner	N/A
8. Originator Remarks: This Engineering Data Tranmittal (EDT) File transmits construction status information, fitness-for-use evaluations and disposition recommendations for 25 wells to groundwater on the North Slope and within the Arid Land Ecology Reserve, Hanford Site.		9. Equip./Component No.: N/A
		10. System/Bldg./Facility: N/A
11. Receiver Remarks: N/A		12. Major Assm. Dwg. No.: N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: TBD

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Impact Level	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	EDT File Introduction, Table of Contents and Well Location Map	Pg 1-2	N/A	Introduction, Table of Contents and Well Location Map for 16 groundwater wells	4	3		
2	Well 699-S25-51 (Hodges Ranch)	Pgs 1-3	N/A	EII 6.6 package for 699-S25-51	3E	4		
3	Well 699-S18-51 (Army well H52L)	Pgs 1-3	N/A	EII 6.6 package for 699-S18-51	3E	4		
4	Well 699-S12-29 (GW mon)	Pgs 1-4	N/A	EII 6.6 package for 699-S12-29	3E	4		
5	Well 699-3-45 (GW mon)	Pgs 1-4	N/A	EII 6.6 package for 699-S9-638	3E	4		

16. KEY

Impact Level (F)	Reason for Transmittal (G)	Disposition (H) & (I)
1, 2, 3, or 4 (see MRP 5.43)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION (See Impact Level for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
		Cog.Eng. M. G. Gardner			N3-06	R. Chong					
		Cog. Mgr. D. J. Moak			N3-05	S. P. Luttrell			K6-96		
		QA N/A				J. Fassett			H6-06		
		Safety N/A									
		Env. K. A Gano			X0-21						
		Geosciences K. R. Fecht			H6-06						

18.	19.	20.	21. DOE APPROVAL (if required) Ltr. No.
Signature of EDT Originator / Date	Authorized Representative for Receiving Organization / Date	Cognizant/Project Engineer's Manager / Date	[] Approved [] Approved w/comments [] Disapproved w/comments

ENGINEERING DATA TRANSMITTAL
(CONTINUATION PAGE)

5. Proj./Prog./Dept./Div.:	6. Cog. Eng.	1. EDT	
Environmental Restoration	M. G. Gardner	600202	Page 2 of 2

15. DATA TRANSMITTED					(F)	(G)	(H)	(I)
(A) Item No.	(B) Document/ Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	Impact Level	Reason for Trans-mittal	Origi-nator Dispo-sition	Receiver Dispo-sition
6	Well 699-10-99 (Shedds #11)	Pgs 1-4	N/A	EII 6.6 package for 699-13-64	3E	4		
7	Well 699-13-64 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-13-64	3E	4		
8	Well 699-17-70 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-17-70	3E	4		
9	Well 699-19-88 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-19-88	3E	4		
10	Well 699-20-82 (Benson Ranch)	Pgs 1-4	N/A	EII 6.6 package for 699-20-82	3E	4		
11	Well 699-24-95 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-24-95	3E	4		
12	Well 699-26-89 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-26-89	3E	4		
13	Well 699-36-93 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-36-93	3E	4		
14	Well 699-37-92 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-37-92	3E	4		
15	Well 699-39-103 Charact	Pgs 1-4	N/A	EII 6.6 package for 699-39-103	3E	4		
16	Well 699-43-104 GW mon	Pgs 1-4	N/A	EII 6.6 package for 699-43-104	3E	4		
17	Well 699-79-104 (PSN 82)	Pgs 1-4	N/A	EII 6.6 package for 699-79-104	3E	4		
18	Well 699-86-95 (PSN H83C)	Pgs 1-4	N/A	EII 6.6 package for 699-86-95	3E	4		
19	Well 699-92-14 (PSN 505)	Pgs 1-4	N/A	EII 6.6 package for 699-92-14	3E	4		
20	Well 699-93-93 (PSN H83L)	Pgs 1-4	N/A	EII 6.6 package for 699-93-93	3E	4		
21	Well 699-107-79 (PSN 410)	Pgs 1-3	N/A	EII 6.6 package for 699-107-79	3E	4		
22	Well 699-108-20 (PSN 500-1)	Pgs 1-4	N/A	EII 6.6 package for 699-108-20	3E	4		
23	Well 699-111-24 (Psn 500-1)	Pgs 1-4	N/A	EII 6.6 package for 699-111-24	3E	4		
24	Well 699-112-37 (PSN 535)	Pgs 1-4	N/A	EII 6.6 package for 699-112-37	3E	4		
25	Well 699-115-61 (PSN 420)	Pgs 1-4	N/A	EII 6.6 package for 699-115-61	3E	4		
26	Well 699-115-7 (DH-4 corehole)	Pgs 1-4	N/A	EII 6.6 package for 699-115-7	3E	4		

ENGINEERING DATA TRANSMITTAL FILE
EDT 600202

INTRODUCTION

This engineering data transmittal (EDT) file provides well construction and completion summary drawings and resource protection groundwater well structure fitness for use checklists for 26 gas field and groundwater wells located on the north slope and the Arid Land Ecology study area, Hanford Site.

This information is compiled as a part of the fitness for use evaluation process contained in environmental investigations instruction (EII) 6.6. A proposed diagrammatic well decommissioning plan is also included when decommissioning of a well is recommended.

CONTENTS

REFERENCES

WHC-CM-7-7, Environmental Investigations and Site characterization Manual. EII 6.6, "Resource Protection Well Characterization and Evaluation."

PNL-6907, HANFORD WELLS, 1989, V. L. McGhan, Pacific Northwest Laboratory, Richland, Washington.

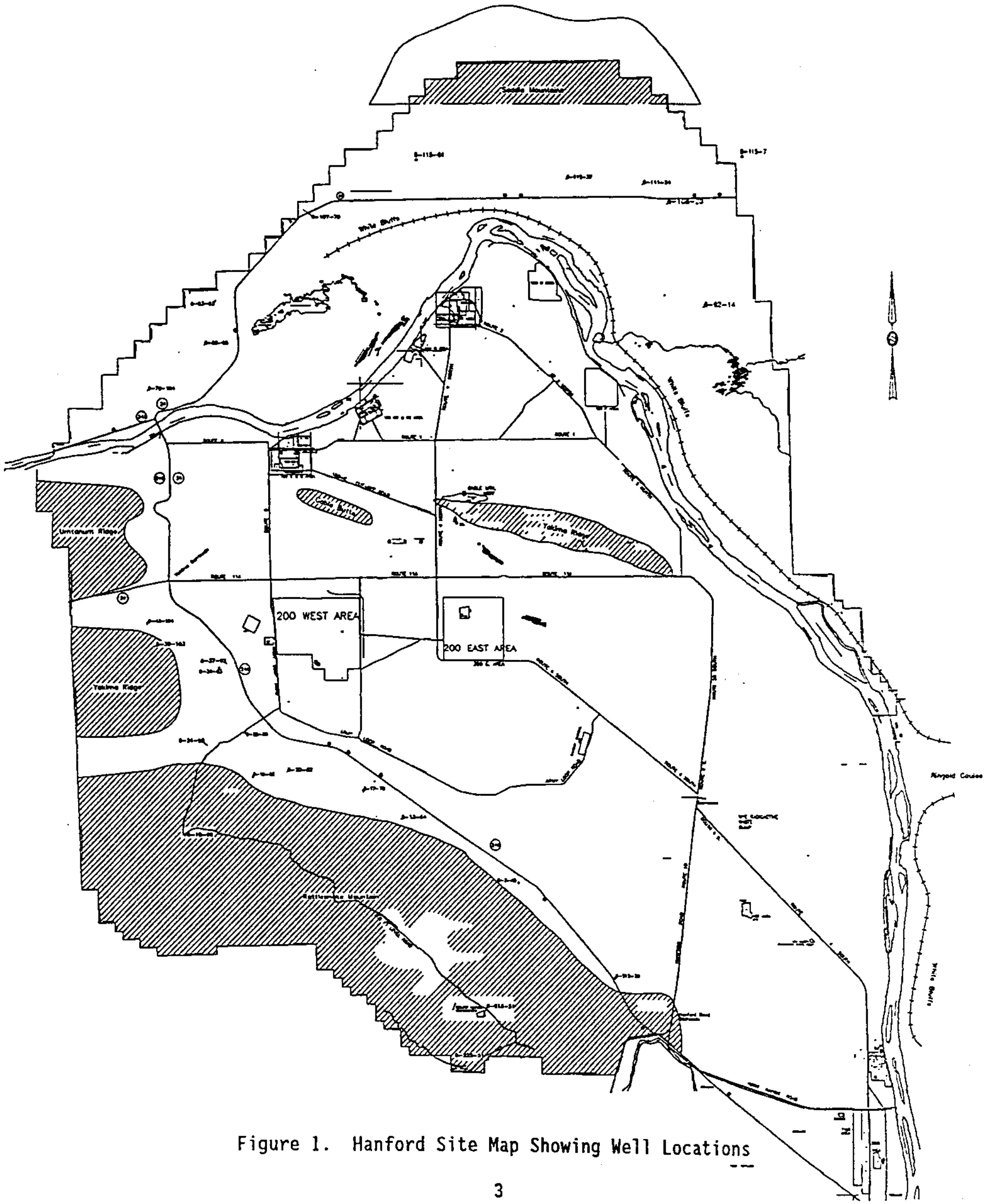

Figure 1. Hanford Site Map Showing Well Locations

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WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Not documented
Date Started: Oct71

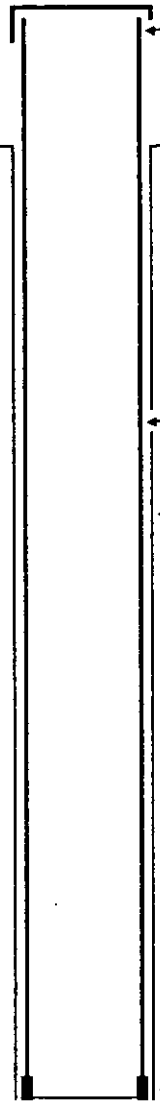
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: Unknown 1977

WELL NUMBER: 699-S25-51
TEMPORARY WELL NO: Hodges Ranch
Hanford Coordinates: N/S S 24,500 E/W W 51,000
State NAD83 N 116,006.29m 274,397.94m
Coordinates: N N 380,671 E 2,244,388
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: Not documented

Depth to water: Not documented
(Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

None available



Elevation of reference point: [1,320-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
No surface seal documented:
6-in ID carbon steel casing, +ND↔ND
Hole diameter, Not documented
No perforations documented
Borehole drilled depth: [420-ft]

Drawing By: RKL/6S25W51.ASB
Date : 25Oct93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-S25-51

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[Yes] Rattlesnake Observatory water supply

3. Is well presently in use?
[Yes] Yes-has pump house

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND]

4a. Natural barriers preserved?
[ND]

4b. Aquifer/strata pentrated permanently sealed?
[ND]

4c. Annulus sealed against surface water?
[ND]

4d. Casing overlap more than 8 ft; packed and grouted?
[ND]

5. If not in use, is well capped IAW WAC 173-160-085?
[ND]

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is not resource protection well

6a. Saturated formation/aquifers not connected?
[N/A]

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A]

6c. Well properly indentified?
[N/A]

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A] Has pump house

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[No] No driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-S25-51

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Not documented Date: _____ Company: _____
Geologist: N/A Date: _____ Company: _____
Geophysical: N/A Date: _____ Company: _____
Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date
None

Databases:
N/A

Field Check: N/A Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is in beneficial use. No construction data available. Should be accepted "as is" as constructed before WAC 173-160 effective date. Shallow depth of 420-ft precludes aquifer interconnection.

15. Status

Well is acceptable for intended use	[Yes]	See comments
Well is acceptable for intended use if variance is granted	[N/A]	
Rehabilitation required to continue intended use	[No]	Accept as is
Remediation required to achieve intended use	[No]	Accept as is
Decommission, well is unneeded or cannot be remediated	[No]	Well in beneficial use
Other _____	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/22/93

A-6000-451R (06/93)

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WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Midland Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location Walla Walla WA
Date Complete: May58

WELL NUMBER: 699-S18-51
Hanford Coordinates: N/S S 18,000
State Coordinates: N 387,171
Start Card #: Not documented
Elevation Ground surface (ft): Not documented

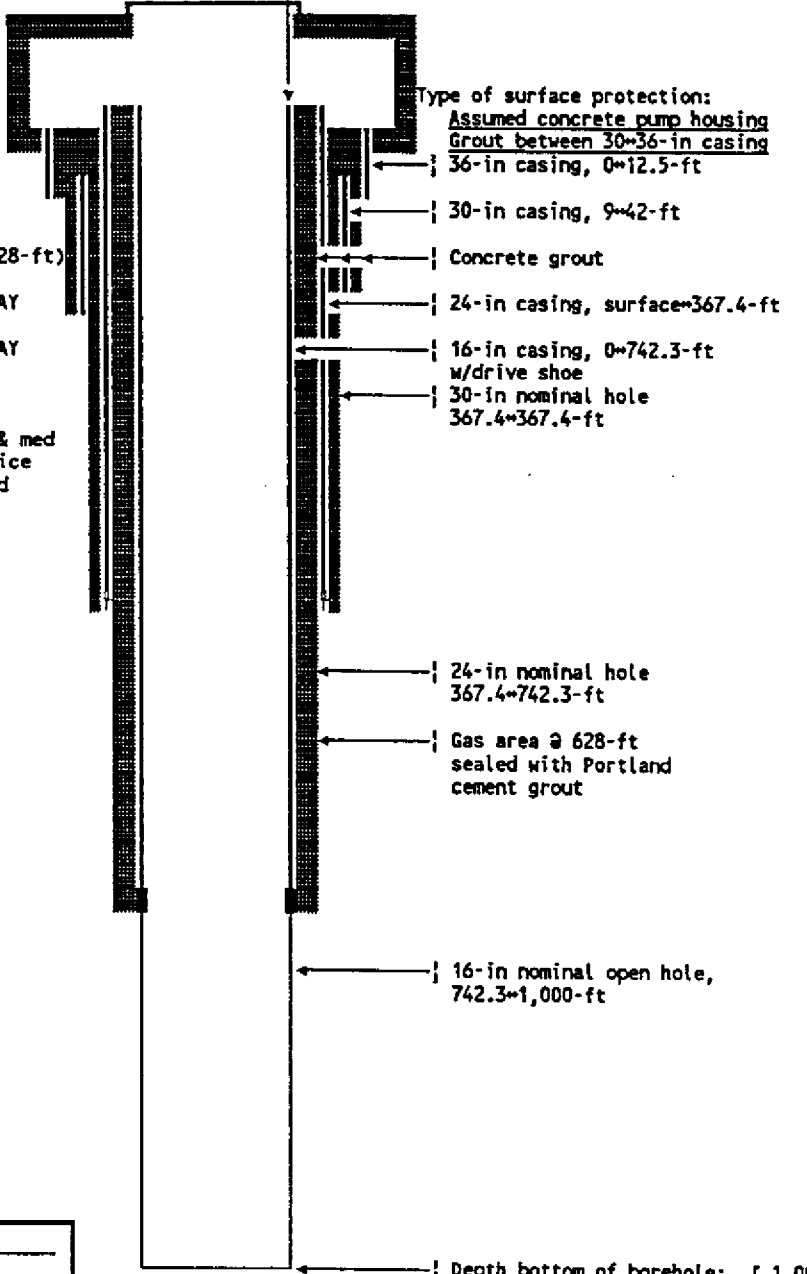
TEMPORARY WELL NO: H52L
E/W W 51,000
E 2,244,371
T11N R26E S34R

Depth to water: 800-ft May58

Elevation of reference point: 1,211.30-ft (Top of casing)

GENERALIZED Driller's STRATIGRAPHY Log

0-7: TOPSOIL
7-12: Yellow CLAY
12-41: Cemented GRAVEL
41-100: Gray, hard BASALT
100-150: Clay and rock CONGLOMERATE
150-667: BASALT, dark med to hard (Gas pocket, 627-628-ft)
667-705: Green CLAY
705-720: Broken BASALT & CLAY
720-724: Green CLAY
724-738: Broken BASALT & CLAY
738-755: BASALT, dark-hard
755-765: BASALT-broken
765-778: BASALT, dark-med
778-947: BASALT, dark-hard & med
947-948: Water bearing crevice
948-1,000: BASALT, dark-hard



Drawing By: RKL/6S18W51.AS8
Date: 30Jul93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-S18-51

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[Yes] Well is in beneficial use as a water supply well

3. Is well presently in use?
[Yes] Water supply to ALE headquarters

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[Yes] Well has multiple cement grout casings

4a. Natural barriers preserved?
[Yes] Interbeds and gas zone cased and sealed

4b. Aquifer/strata pentrated permanently sealed?
[Yes] All casings are cement grouted

4c. Annulus sealed against surface water?
[Yes] Has surface casing and concrete pump housing

4d. Casing overlap more than 6 ft; packed and grouted?
[Yes] See attached construction drawing

5. If not in use, is well capped IAW WAC 173-160-085?
[NA] Well is in use

6. Is design and construction IAW WAC 173-160-500?
[NA] Well is in use

6a. Saturated formation/aquifers not connected?
[Yes] Connection prevented by grouted casings

6b. Cuttings/development water handled IAW WAC 173-303?
[NA] Well drilled before effective date of WAC 173-303

6c. Well properly indentified?
[No] Well does not have permanent ID

7. Is surface protection IAW WAC 173-160-510?
[NA] Well is not a resource protection well

7a. Well capped and protected?
[NA]

7b. Protective posts, surface pad or cover installed?
[NA]

7c. Surface protection waived or variance obtained?
[NA]

7d. Is existing surface protection damaged?
[NA]

8. Are casing materials IAW 173-160-520?
[NA]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[NA]

9a. Drill rig/equipment casing/screen cleaned?
[NA]

9b. Filter pack cleaned? Material compatible?
[NA]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[NA]

10a. Screened interval documented?
[NA] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-S18-51

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[NA] Not a resource protection well

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[NA]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[NA]

11c. Well has been developed.
[Yes] Developed during completion

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[NA]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[NA]

13. Data Sources Used:
Logs:
Driller's: Midland Drilling, Walla Walla WA Date: 05/07/58 Company:
Geologist: NA Date: Company:
Geophysical: NA Date: Company:
Television: NA Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
WHC GWWS Paradox
Field Check: WHC GWWS Date: 07/16/93 Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is in beneficial use as a water supply well. Documented construction is acceptable for water well use.
No lead packers were documented in this well.

15. Status

Well is acceptable for intended use	[Yes]	Acceptable for water supply
Well is acceptable for intended use if variance is granted	[NA]	
Rehabilitation required to continue intended use	[No]	
Remediation required to achieve intended use	[No]	
Decommission, well is unneeded or cannot be remediated	[No]	
Other	[NA]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/20/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Two shifts E.Wilcox//L. Smith
Drilling Company: I Haden Drilling Co
Date Started: 22Oct62
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 25Oct62

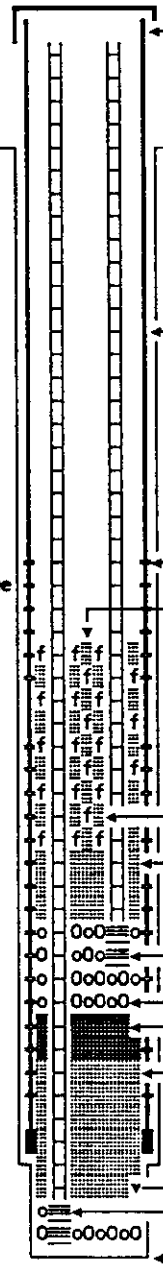
WELL NUMBER: 699-S12-29
TEMPORARY WELL NO: 699-S12-30
Hanford Coordinates: N/S S 11,694 E/W W 29,467
State Coordinates: N 393,532 E 2,265,888
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 486.2-ft Estimated

Depth to water: 115-ft 24Oct62
(Ground surface) 82.0-ft 04Jun93

GENERALIZED STRATIGRAPHY / Driller's Log

0-60: Med and fine SAND, trace SILT
light gray
60-62: Med with fine SAND, 1-IN GRAVEL,
trace of SILT, gray
62-80: Hard cemented GRAVEL,
with trace SILT, gray
80-110: Basalt GRAVEL w/SILT, gray
110-124: Fine cuttings of BASALT
and fine SAND
124-130: Lt blue CLAY w/trace SHALE
130-135: Lt blue CLAY w/fine SAND
135-140: Blue shale CLAY, trace of
SAND and CALICHE
140-145: SAND w/blue shale CLAY
and CALICHE material
145-160: Very tightly packed SAND with
bit of basalt GRAVEL and
CLAY or CALICHE
160-165: Shale CLAY and CALICHE, lt blue
165-175: Blue CLAY w/trace SHALE
and CALICHE
175-178: Brown and blue SHALE
and CALICHE, trace BASALT
178-190: BASALT, w/trace SHALE

REMEDIATIONS:
Not documented
Installed PVC piezometers
Dec75 by M. Bultena
Cleaned out well and removed
piezometers
Apr77 by M. Bultena
Installed P and Q piezometers



Elevation of reference point: [487.68-ft]
(top of casing)
Height of reference point above ground surface [1.5-ft]
Depth of surface seal [ND]
No surface seal documented:
8-in ID carbon steel casing, +1.5-180.0-ft
Hole diameter, 0-180-ft, 9-in nominal
8-in casing perforations, 83-115-ft, 4 cuts/rd/ft
115-125-ft, no perfs
125-144-ft, 4 cuts/rd/ft
145-175-ft, 6 cuts/rd/ft
Depth to bottom, 99.6-ft, 04Jun93
Fill, 99.6-140-ft
Sand, 140-150-ft
Q piezometer/1.5-in tubing, Screen, 150-155-ft, #60-slot
Gravel, 150-160-ft
Cement plug, 160-170-ft
Sand, 170-185-ft
Gravel pack, 185-190-ft
P piezometer/1.5-in tubing, Screen, 185-190-ft, #60-slot
Borehole drilled depth: [190.0-ft]

Drawing By: RKL/6S12W29.AS8
Date : 23Sep93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Two shifts Name: E.Wilcox//L. Smith
Drilling Company: I Haden Drilling Co
Date Started: 22Oct62

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 25Oct62

WELL NUMBER: 699-S12-29
TEMPORARY WELL NO: 699-S12-30
Hanford Coordinates: N/S S 11,694 E/W W 29,467
State Coordinates: N 393,532 E 2,265,888
Start Card #: Not documented T ___ R ___ S ___
Elevation Ground surface (ft): 486.2 Estimated

Depth to water: 115-ft 24Oct62
(Ground surface) 82.0-ft 04Jun93

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Pressure grout piezometer tubes to static water level, (P-tube, ~82-190-ft; Q-tube, ~82-155-ft).

[2] Place sand plug from static to top of fill (~82-99.6-ft).

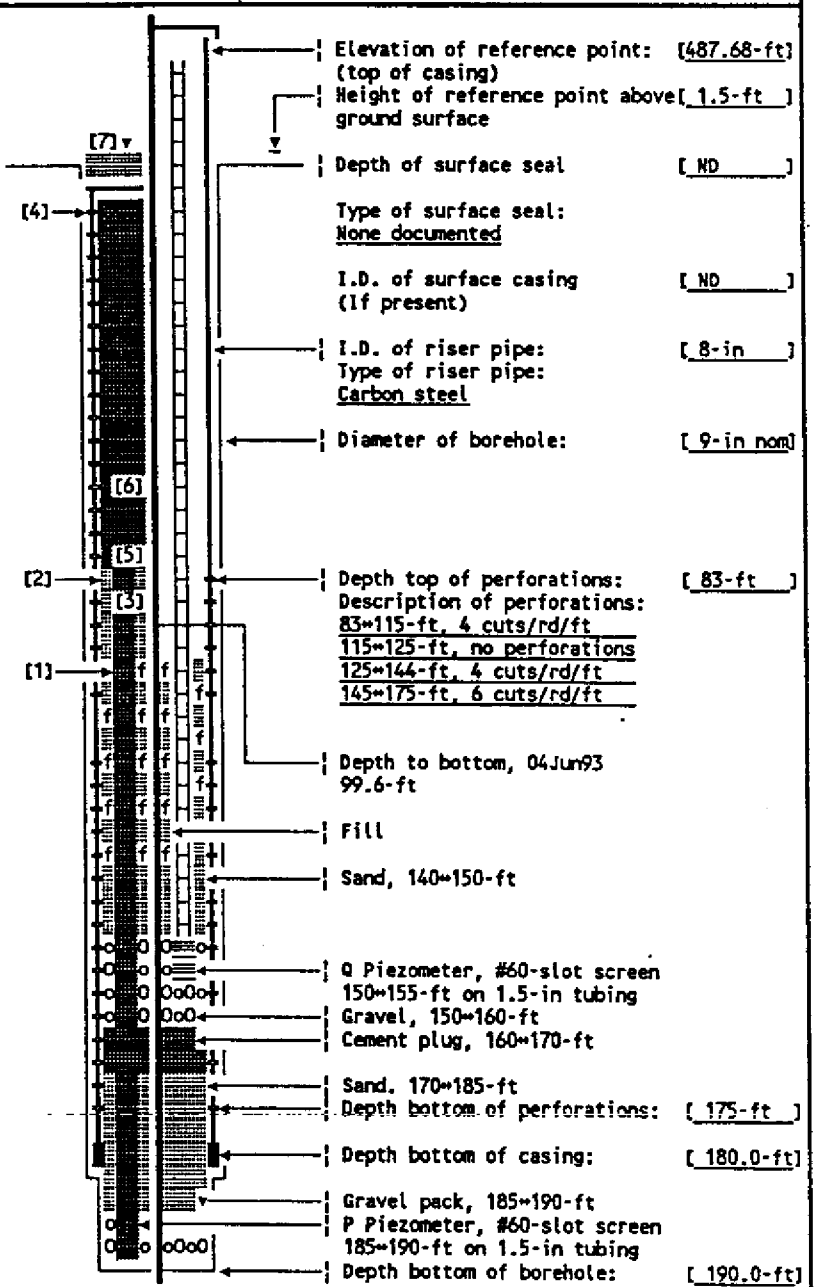
[3] Cut piezometer tubes at static and remove. (~82-ft).

[4] Perforate 8-in casing 3-82-ft, 4 cuts/rd/ft.

[5] Place bentonite plug, approximately 80-82-ft.

[6] Pressure grout 8-in casing 3-80-ft.

[7] Cut casing @ 3-ft, place concrete or metal cap. Fill to grade and compact.



Drawing By: RKL/6S12W29.PLN
Date : 16Aug93
Reference : WAC 173-160

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-S12-29

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] WHC and PNL water levels, PNL sampling

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[ND] No seals or plugs

4b. Aquifer/strata pentrated permanently sealed?
[No] No annular seals

4c. Annulus sealed against surface water?
[No] No surface seal

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Has two 1.5-in piezometers

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[ND] May interconnect semiconfined aquifers

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[ND] Not documented

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[ND] Not documented, assumed capped and locked

7b. Protective posts, surface pad or cover installed?
[No]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[ND] Casing is carbon steel

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND] Not documented

10a. Screened interval documented?
[Yes] Piezometer screens documented

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-S12-29

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[ND] Piezometer screen material not documented

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[No] Gravel pack extends to top of screen

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND]

13. Data Sources Used:
Logs:
Driller's: Wilcox/Smith, I Haden Drilling Date: 10/25/62 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
WHC GWWS

Field Check: WHC GWWS Date: 06/04/93 Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well criteria.

15. Status

Well is acceptable for intended use	[No]	No surface/annular seal
Well is acceptable for intended use if variance is granted	[No]	No surface/annular seal
Rehabilitation required to continue intended use	[Yes]	Has fill
Remediation required to achieve intended use	[Yes]	Remove piezometers
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Jocobson/Stratton
Drilling Company: I Haden Drilling Co
Date Started: 220ct62

Sample Method: Drive barrel
Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 01Nov62

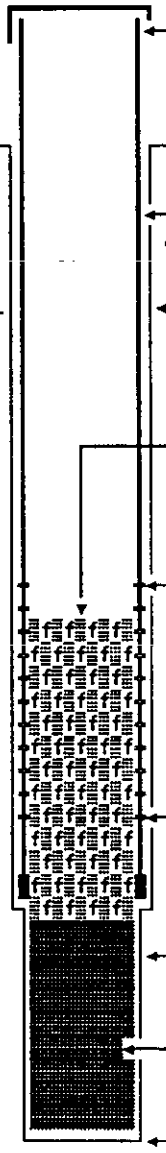
WELL NUMBER: 699-3-45
TEMPORARY WELL NO: #18
Hanford Coordinates: N/S N 3,007 E/W W 45,007
State Coordinates: N 408,193 E 2,250,310
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 502.8-ft Estimated

Depth to water: 107.0-ft 01Nov62
(Ground surface) 90.9-ft, 29Jul93

GENERALIZED STRATIGRAPHY

Driller's Log

0-5: Brown SILT
5-20: SILT and brown SAND
20-60: Light brown SAND
60-65: Fine brown SAND
65-80: Fine light brown SAND
80-100: Fine brown SAND
100-110: Fine brown sand w/basalt GRAVEL
110-115: SAND and ½-in brown GRAVEL
115-120: SAND and ¼-in brown GRAVEL
120-131: ¼-in GRAVEL
down to fine brown SAND
131-145: Honeycomb BASALT
145-160: BASALT
160-168: Black and rust color BASALT
(Hole falling in, cemented zone with a total of 1,410-lbs cement. Got cement 163-168-ft).
168-175: Rusty red ROCK



Elevation of reference point: [504.54-ft]
(top of casing)
Height of reference point above ground surface [1.7-ft]
Depth of surface seal [ND]
No surface seal documented
8-in ID carbon steel casing, +ND-132-ft
Hole diameter, 9-in nominal 0-132-ft
Depth to bottom, 94.1-ft, 29Jul93
8-in casing perforations, 100-128-ft, 6 cuts/ft/rd
NOTE: HANFORD WELLS documents perforations, 90-100-ft
Hole diameter, 8-in nominal 132-175-ft
Cement plug, @ 134-ft
Placement not documented
Borehole drilled depth: [175.0-ft]

Drawing By: RKL/6N03W45.ASB
Date : 27Sep93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Jocobson/Stratton
Drilling Company: I Haden Drilling Co
Date Started: 220ct62 Date Complete: 01Nov62

Sample Method: Drive barrel
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented

WELL NUMBER: 699-3-45 TEMPORARY WELL NO: #18
Hanford Coordinates: N/S N 3,007 E/W W 45,007
State Coordinates: N 408,193 E 2,250,310
Start Card #: Not documented T ___ R ___ S ___
Elevation Ground surface: 502.5-ft Estimated

Depth to water: 107.0-ft 01Nov62
(Ground surface) 90.5-ft, 03Jun93

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Clean out to cement plug @ 134-ft. Check perfs. w/TV.

[2] Place sand fill, from 90-134-ft.

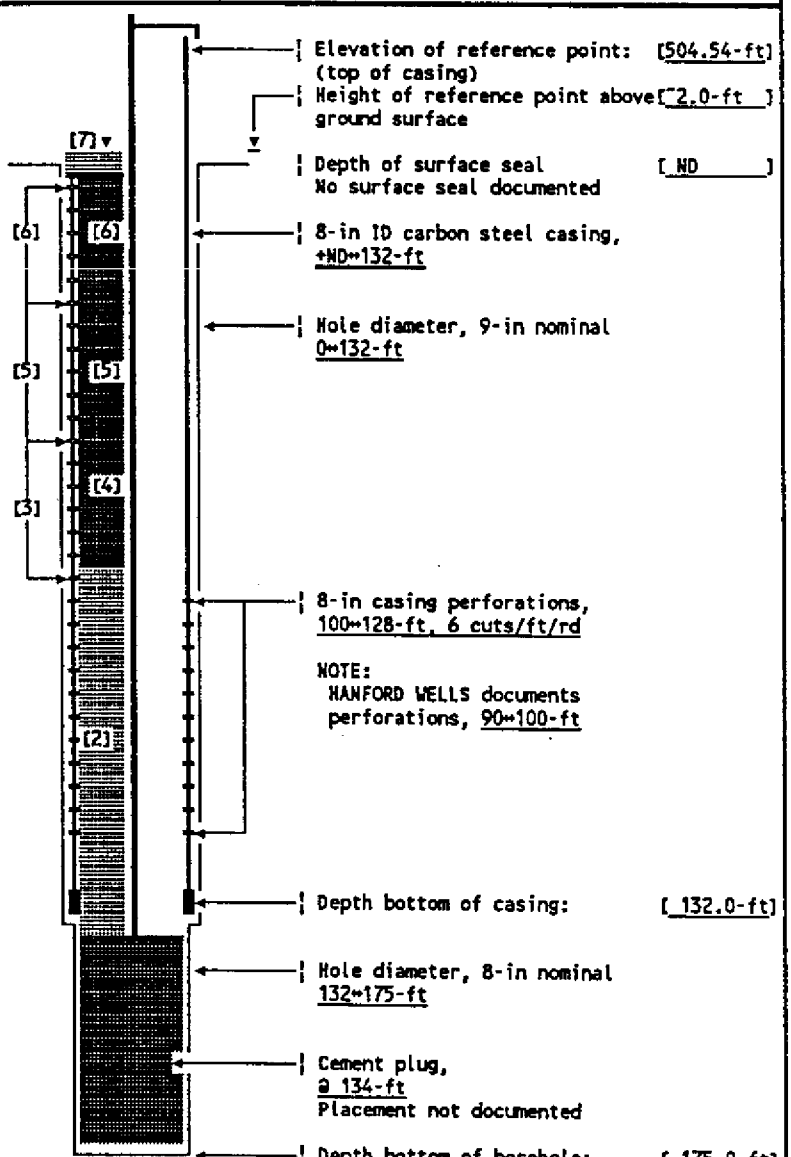
[3] Perforate 60-90-ft.

[4] Place sand, 87-90-ft, and bentonite 82-87-ft. Pressure grout 60-82-ft with neat cement.

[5] Perforate 30-60-ft and pressure grout w/neat cement.

[6] Perforate 3-30-ft and pressure grout w/neat cement.

[7] Cut casing @ 3-ft, place metal or concrete cap. Fill to grade and compact.



Drawing By: RKL/6N03W45.PLN
Date : 16Aug93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-3-45

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] PNL annual water level measurement

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[N/A] Unconfined aquifer

4b. Aquifer/strata penetrated permanently sealed?
[No] No annular seal

4c. Annulus sealed against surface water?
[No] No surface seal or pad

4d. Casing overlap *more* than 8 ft; packed and grouted?
[N/A] Single casing

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[N/A] Unconfined aquifer only

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[ND] Not documented

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[ND] Not documented

7b. Protective posts, surface pad or cover installed?
[No]

7c. Surface protection waived or variance obtained?
[No]

7d. Is existing surface protection damaged?
[ND] Not documented

8. Are casing materials IAW 173-160-520?
[No] Casing is carbon steel

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND]

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND] Not documented

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-3-45

11. Is design and construction IAW WAC 173-160-540?
[No] No screen or filter pack

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND] Not documented

13. Data Sources Used:
Logs:
Driller's: Jacobson/Stratton, I Haden Co Date: 11/01/62 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
WHC GWWS

Field Check: N/A Date: Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use	[No]	No surface/annular seal
Well is acceptable for intended use if variance is granted	[No]	No surface/annular seal
Rehabilitation required to continue intended use	[Yes]	Well contains fill
Remediation required to achieve intended use	[Yes]	Surface seal, screen
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: L. K. Armstrong?
Drilling Company: Spokane-Benton Natural Gas Co
Date Started: Not documented

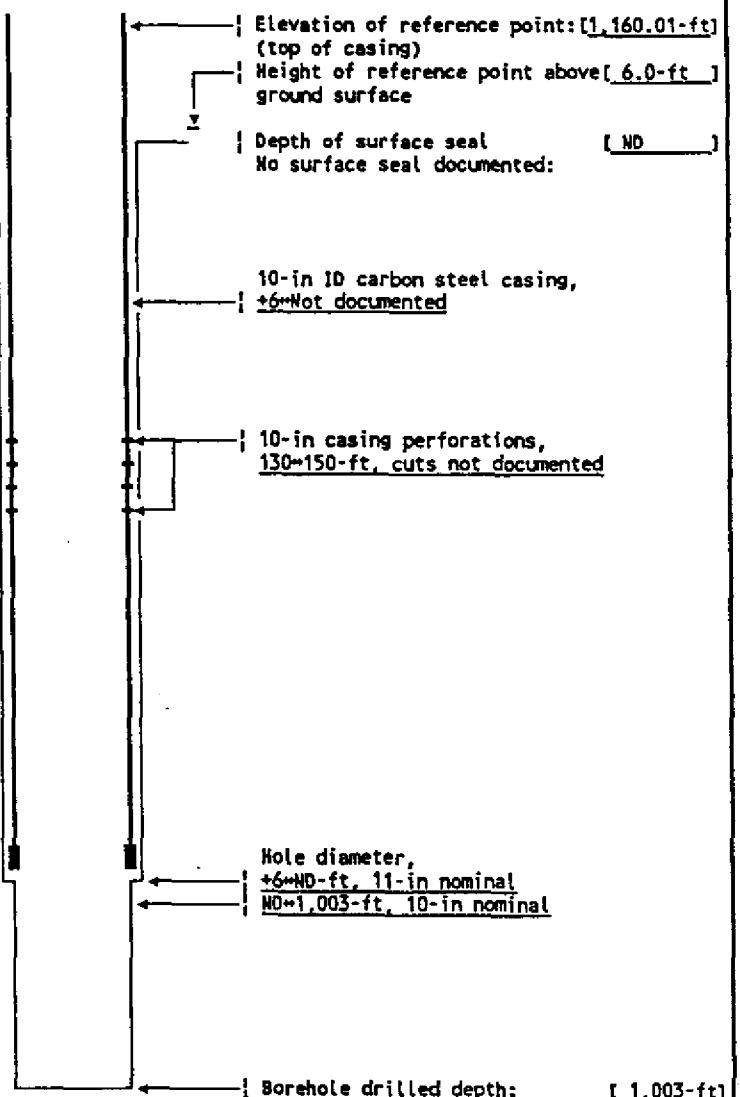
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: >Oct22

WELL NUMBER: 699-10-99
TEMPORARY WELL NO: Shedd #11
Hanford Coordinates: N/S N 10,200 E/W W 98,550
State Coordinates: N 415,500 E 2,196,500
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 1,156-ft Estimated

Depth to water: Not documented (Ground surface)

GENERALIZED STRATIGRAPHY — Driller's Log

0-18: BOULDER, volcanic ASH & GRAVEL
18-20: Fine SAND
20-30: GRAVEL
30-80: Porous BASALT
80-102: Yellow SAND with slight mixture of CLAY
102-230: CLAY, SAND & BOULDERS
230-280: Porous BASALT
280-418: BASALT
418-465: CLAY
465-485: CLAY, SAND & BOULDERS
485-510: BASALT (very hard)
510-540: Grey BASALT
540-550: Blue SHALE
550-560: SAND & BOULDERS
560-580: SAND & broken BASALT
580-730: Hard grey BASALT
730-895: Hard BASALT
895-901: Sand ROCK
901-995: Hard BASALT
995-1,003: SLATE



Drawing By: RKL/6N10W99.ASB
Date : 22Oct93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: L. K. Armstrong?
Drilling Company: Spokane-Benton Natural Gas Co
Date Started: Not documented

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: >Oct22

WELL NUMBER: 699-10-99
TEMPORARY WELL NO: Shedd #11
Hanford Coordinates: N/S N 10,200 E/W W 98,550
State Coordinates: N 415,500 E 2,196,500
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 1,156-ft Estimated

Depth to water: Not documented
(Ground surface)

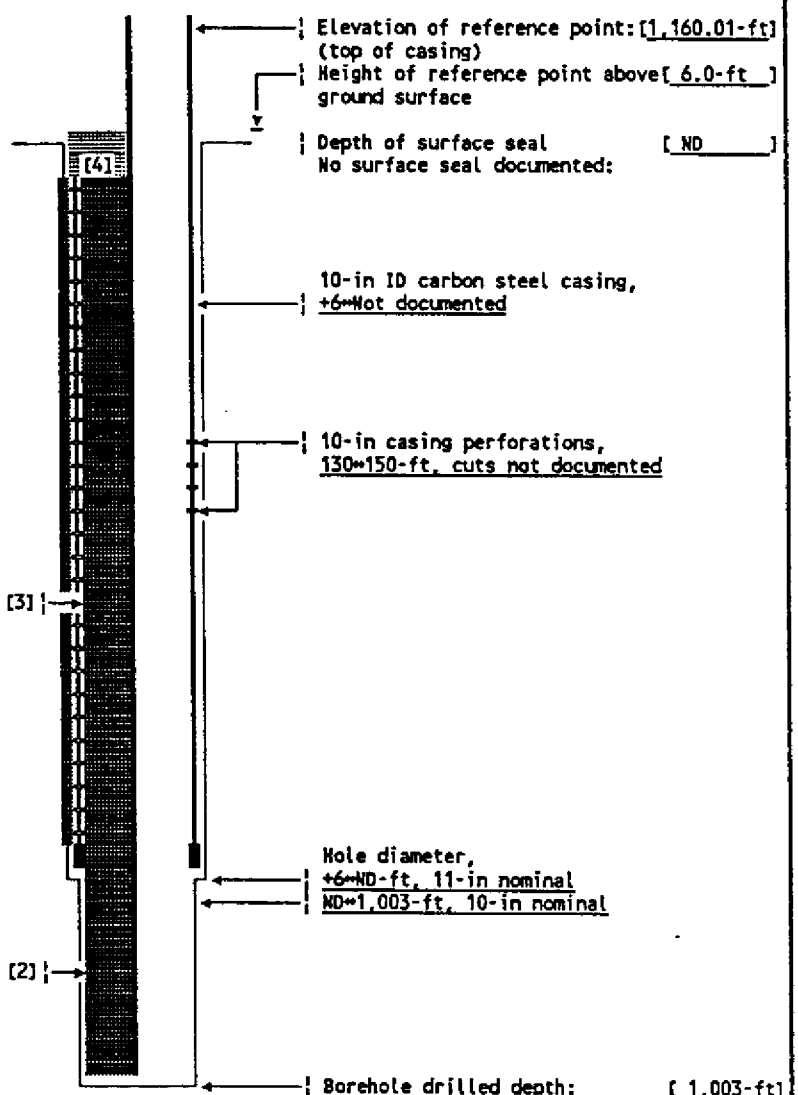
DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Cleanout to total depth. Verify bottom of casing and perforations by TV.

[2] Cement grout open hole from bottom of casing to to total depth in stages as determined in field.

[3] Perforate casing 3-ft↔bottom and pressure grout in stages as determined in field.

[4] Cut casing at 3-ft, place cement or metal cap. Fill to grade and compact.



Drawing By: RKL/6N10W99.ASB
Date : 22Oct93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-10-99

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] Gas field is depleted

3. Is well presently in use?
[No] Well has been abandoned

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND] No surface or annular seal documented

4a. Natural barriers preserved?
[No] Well has been perforated, may allow cascading

4b. Aquifer/strata pentrated permanently sealed?
[No] No record of surface or annular seal

4c. Annulus sealed against surface water?
[No] No surface seal documented

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A]

5. If not in use, is well capped IAW WAC 173-160-085?
[No] Well is not capped

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is gas exploration well, not resource protection well

6a. Saturated formation/aquifers not connected?
[No] Interconnection probably exists

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Well drilled befroe applicable date of WAC 173-303

6c. Well properly indentified?
[No] No identification

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-10-99

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Spokane-Benton Natural Gas Co Date: Oct1922 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
N/A

Databases:
N/A

Field Check: WHC GWWS Date: 07/29/93 Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is presently unneeded and potentially interconnects aquifers. Well should be decommissioned. Well may be candidate for remediation as up-gradient background well.

15. Status

Well is acceptable for intended use	[No]	Gas field is depleted
Well is acceptable for intended use if variance is granted	[No]	Well may connect aquifers
Rehabilitation required to continue intended use	[No]	No value as gas well
Remediation required to achieve intended use	[TBD]	May be useful as background
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/25/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Stanberry/Robinson
Drilling Company: USGS
Date Started: Not documented

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: Oct50

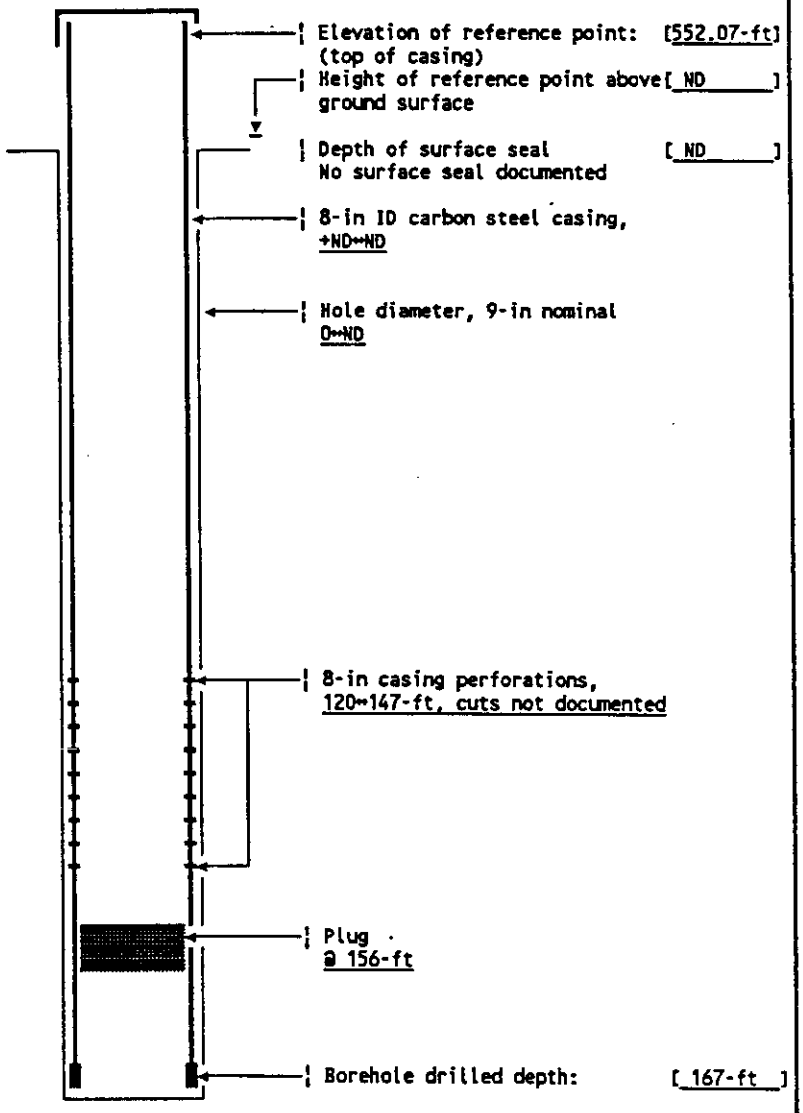
WELL NUMBER: 699-13-64
Hanford
Coordinates: N/S N 12,596 E/W W 63,975
State
Coordinates: N 417,734 E 2,231,318
Start Card #: Not documented T ___ R ___ S ___
Elevation
Ground surface: Not documented

TEMPORARY WELL NO: USGS No 4
699-12.5-64.0

Depth to water: Not documented
(Ground surface) 120-ft,08Dec76

GENERALIZED STRATIGRAPHY — Driller's Log

0-13: Silty med SAND
13-21: Sandy clayey SILT
21-45: SAND, GRAVEL & some SILT
45-52: Sandy GRAVEL
52-66: Silty SAND
66-104: Clayey SILT
104-109: Silty SAND
109-113: Sandy GRAVEL
113-121: Sandy SILT
121-133: Sandy GRAVEL
133-137: Well-sorted SAND
137-161: Gravelly SAND
161-168: BASALT



Drawing By: RKL/6N13W64.ASB
Date : 27Sep93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Stanberry/Robinson
Drilling Company: USGS
Date Started: Not documented
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: Oct50

WELL NUMBER: 699-13-64
TEMPORARY WELL NO: USGS No 4
Hanford 699-12.5-64.0
Coordinates: N/S N 12,596 E/W W 63,975
State Coordinates: N 417,734 E 2,231,318
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: Not documented

Depth to water: Not documented
(Ground surface) 120-ft,08Dec76

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Drill out plug. Clean fill to total depth.

[2] Perforate 147-167-ft.

[3] Set cement plug, 160-167-ft.

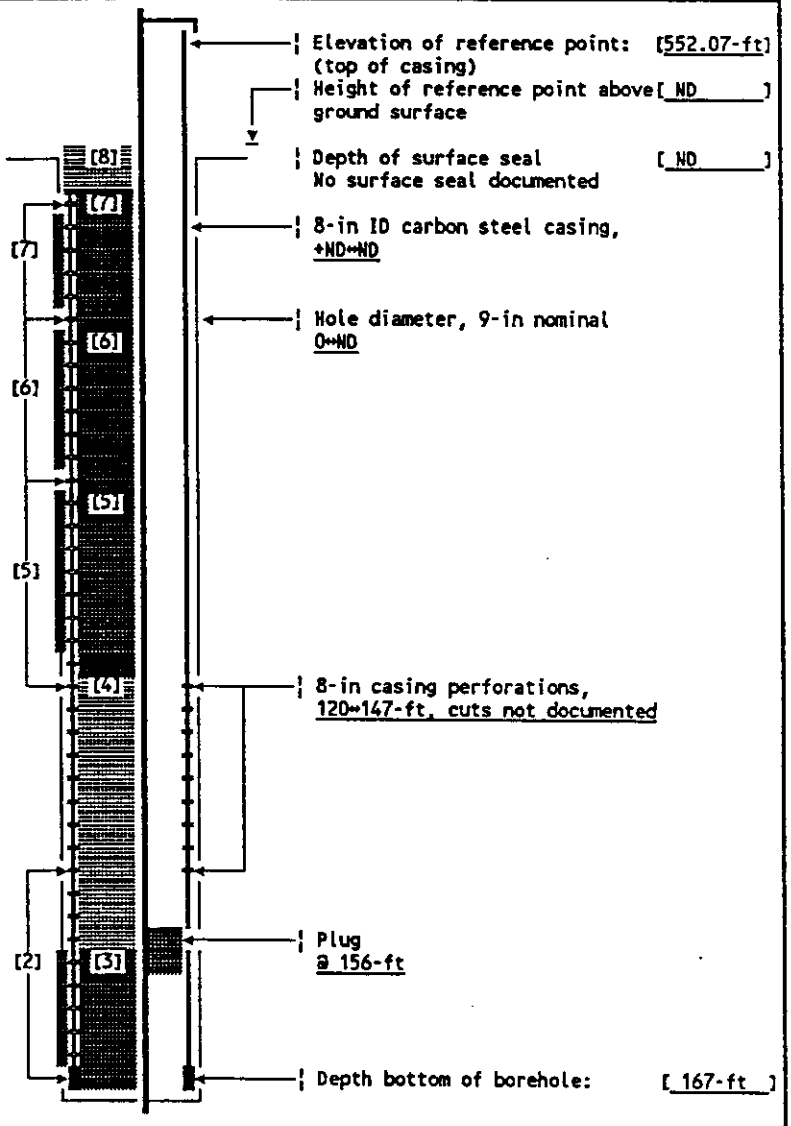
[4] Place sand fill, 120-160-ft.

[5] Perforate, 75-120-ft. Place bentonite crumbles, 115-120-ft. Pressure grout, 75-115-ft w/neat cement.

[6] Perforate, 35-75-ft. Pressure grout w/neat cement.

[7] Perforate, 3-35-ft. Pressure gorut w/neat cement.

[8] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N13W64.PLN
Date : 16Aug93
Reference : HANFORD WELLS
RHO-LD-158

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-13-64

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] PNL sitewide characterization

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[N/A] Unconfined aquifer

4b. Aquifer/strata pentrated permanently sealed?
[No] No annular seal

4c. Annulus sealed against surface water?
[No] No surface seal or pad

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Single casing

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[N/A] Unconfined aquifer only

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[ND] Not documented

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[ND] Not documented

7b. Protective posts, surface pad or cover installed?
[No]

7c. Surface protection waived or variance obtained?
[No]

7d. Is existing surface protection damaged?
[ND] Not documented

8. Are casing materials IAW 173-160-520?
[No] Casing is carbon steel

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND]

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-13-64

11. Is design and construction IAW WAC 173-160-540?
[ ] O

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[ ] No screen or filter pack

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A] No screen

11c. Well has been developed.
[N/A] No filter pack

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[ND] Not documented

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[No] No annular seal

13. Data Sources Used:
Logs:
Driller's: Stanberry/Robinson, USGS Date: Oct1950 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
WHC GWWS
Field Check: N/A Date: Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use	[ND]	Notsdocumentedannular seal
Well is acceptable for intended use if variance is granted	[No]	No surface/annular seal
Rehabilitation required to continue intended use	[No]	No fill documented
Remediation required to achieve intended use	[Yes]	Surface seal/perforate
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: W. Rodda
Drilling Company: Bach Drilling Co
Date Started: 14Oct58
Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 30Oct58

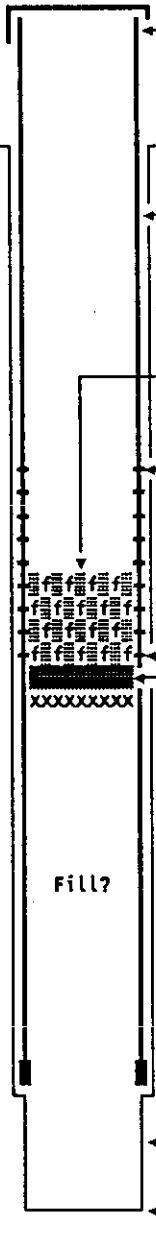
WELL NUMBER: 699-17-70
TEMPORARY WELL NO: (7)
Hanford Coordinates: N/S N 17,000 E/W W 70,000
State Coordinates: N 422,122 E 2,225,282
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 561.2-ft Estimated

Depth to water: 94.0-ft 30Oct58
(Ground surface) 88.0-ft 03Jun93

GENERALIZED STRATIGRAPHY / Driller's Log

0-38: SILT
38-40: SILT & coarse SAND
40-48: SILT & GRAVEL
48-50: SAND & GRAVEL
50-55: SAND & coarse GRAVEL
55-58: SAND, GRAVEL & BOULDERS
58-70: SAND & coarse GRAVEL
70-105: SAND & GRAVEL
105-115: SAND
115-125: SAND, GRAVEL & CLAY
125-135: Brown CLAY
135-142: Blue SHALE
142-155: SAND & GRAVEL
155-160: SAND, GRAVEL, CLAY
160-195: CALICHE & SAND
195-205: SILT & SAND
205-215: SILT-SAND-fine GRAVEL
215-225: Blue SHALE
225-235: Blue SHALE, SAND & GRAVEL
235-250: SAND & GRAVEL
250-269: Grey CLAY
269-286: BASALT

REMEDIATION,
Jul78 by M Bultena
Set wooden and cement plug
125-ft to not documented,
(~130-ft nominal).



Elevation of reference point: [563.18-ft] (top of casing)
Height of reference point above ground surface [2.0-ft]
Depth of surface seal [ND]
No surface seal documented
8-in ID carbon steel casing, +ND-269-ft
Hole diameter, 0-269-ft, 9-in nominal
Depth to bottom, 109.5-ft, 29Jul93
8-in casing perforations, 75-125-ft, 6 cuts/ft/rd
Wooden/cement plug, 125-~130-ft
Hole diameter, 269-286-ft, 8-in nominal
Borehole drilled depth: [286.0-ft]

Drawing By: RKL/6N17W70.ASB
Date : 27Sep93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: W. Rodda
Drilling Company: Bach Drilling Co
Date Started: 14Oct58
Date Complete: 30Oct58

Sample Method: Hard tool (nom)
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented

WELL NUMBER: 699-17-70
TEMPORARY WELL NO: (7)
Hanford Coordinates: N/S N 17,000 E/W W 70,000
State Coordinates: N 422,122 E 2,225,282
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: Not documented

Depth to water: 94.0-ft 30Oct58
(Ground surface) 87-ft, 03Jun93

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Drill out plug. Clean fill to total depth.

[2] Perforate 250-269-ft.

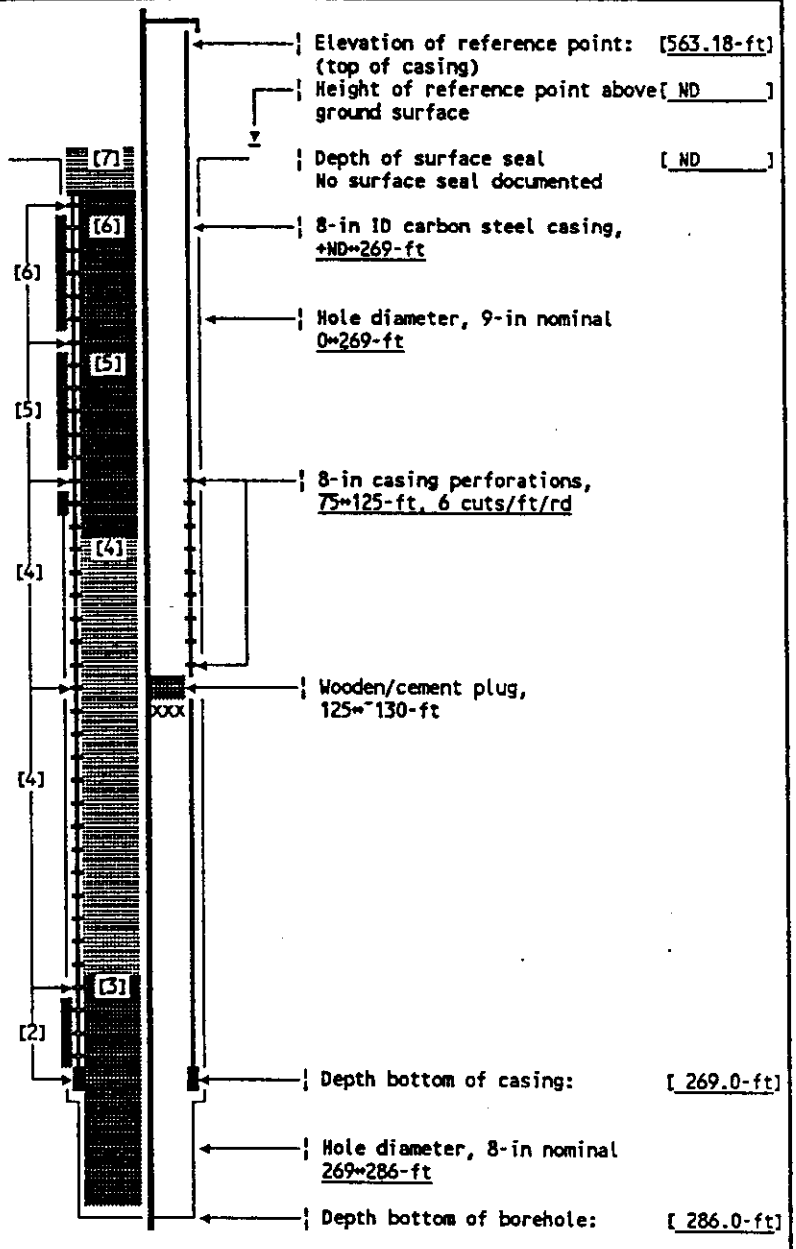
[3] Set cement plug, 250-286-ft w/tremmie pipe.

[4] Perforate 125-250-ft. Place sand fill 85-250-ft, and bentonite crumble plug 80-85-ft.

[5] Perforate 45-75-ft and pressure grout 45-80-ft w/neat cement.

[6] Perforate 3-45-ft and pressure grout w/neat cement.

[7] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N17W70.PLN
Date : 16Aug93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-17-70

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] WHC and PNL water levels, PNL sampling

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[N/A] Unconfined aquifer

4b. Aquifer/strata pentrated permanently sealed?
[No] No annular seals

4c. Annulus sealed against surface water?
[No] No surface seal or pad

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Single casing string

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A] In use, capped and locked

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[N/A] Unconfined aquifer, may interconnect semiconfined

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[No] No permanent identification

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[Yes] Capped and locked

7b. Protective posts, surface pad or cover installed?
[No] No post or pad, cover not applicable

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A] No surface protection

8. Are casing materials IAW 173-160-520?
[ND] Carbon steel casing

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND]

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-17-70

Page 2 of 2

11. Is design and construction IAW WAC 173-160-5407
[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A] No filter pack

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND] Not documented

13. Data Sources Used:
Logs:
Driller's: Rodda/ Bach Drilling Co Date: 10/30/58 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
WHC GWWS

Field Check: WHC GWWS Date: 07/29/93 Company:

Other:
N/A

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use	[No]	No surface/annular seal
Well is acceptable for intended use if variance is granted	[No]	No surface annular/seal
Rehabilitation required to continue intended use	[No]	No fill documented
Remediation required to achieve intended use	[Yes]	Surface seal
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Swain
Drilling Company: Not documented
Date Started: 07Oct57

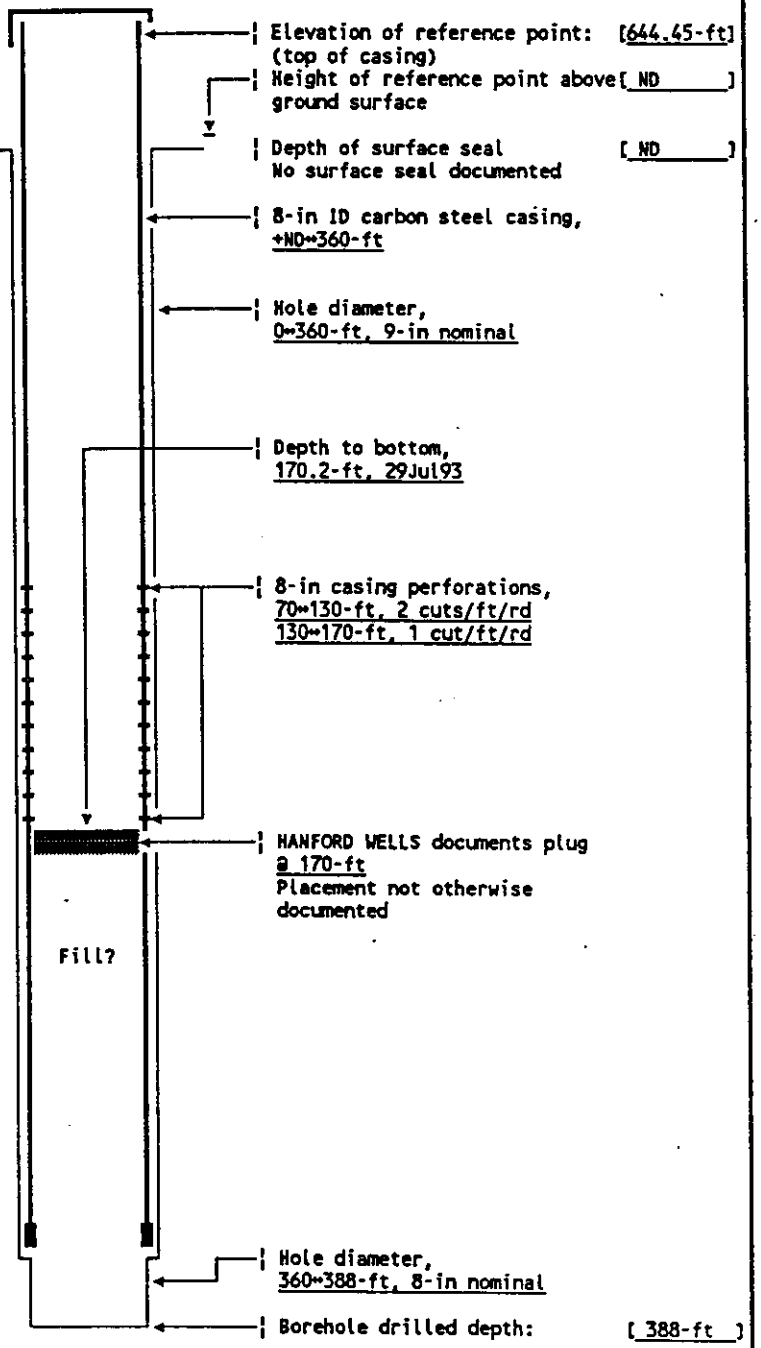
Sample Method: Hard tool (nom)
Additives Used: Cable pieces
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 04Nov57

WELL NUMBER: 699-19-88
TEMPORARY WELL NO: 699-20-87
Hanford Coordinates: N/S N 19,185 E/W W 87,736
State Coordinates: N 424,262 E 2,207,540
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: Not documented

Depth to water: 128.0-ft 04Nov57
(Ground surface) 128.9-ft 03Jun93

GENERALIZED STRATIGRAPHY — Driller's Log

0-20: SILT
20-32: GRAVEL
32-34: SILT
34-50: GRAVEL
50-57: Black basalt GRAVEL
57-62: SILT
62-70: Basalt GRAVEL
70-75: Mixed GRAVEL, mostly basalt
75-80: GRAVEL
80-88: Small cobble GRAVEL
88-100: GRAVEL
100-120: Cemented GRAVEL
120-135: Cemented SAND & small GRAVEL
135-140: SAND, SILT & small GRAVEL
140-145: SAND, SILT, GRAVEL
145-160: Coarse SAND & SILT
160-205: SAND, SILT, & GRAVEL
205-210: SAND & SILT
210-275: SAND, SILT, some GRAVEL
275-305: SAND, SILT & GRAVEL
305-340: Cemented SAND & GRAVEL
340-345: Sandy SILT or CLAY
345-351: CLAY-GRAVEL
351-360: Blue-gray CLAY, basalt GRAVEL
(Adding pieces of cable to drill on
360-365: BASALT-soft
365-373: BASALT-hard
373-376: BASALT-soft
376-388: BASALT-hard



Drawing By: RKL/6N19W88.ASB
Date : 27Sep93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: Swain
Drilling Company: Not documented
Date Started: 07Oct57

Sample Method: Hard tool (nom)
Additives Used: Cable pieces
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 04Nov57

WELL NUMBER: 699-19-88
TEMPORARY WELL NO: 699-20-87
Hanford Coordinates: N/S N 19,185 E/W W 87,736
State Coordinates: N 424,262 E 2,207,540
Start Card #: Not documented T ___ R ___ S ___
Elevation Ground surface: Not documented

Depth to water: 128.0-ft 04Nov57
(Ground surface) ~129-ft, 03Jun93

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Drill out plug. Clean fill to total depth.

[2] Perforate 340-360-ft.

[3] Set cement plug, 340-388-ft w/tremmie pipe.

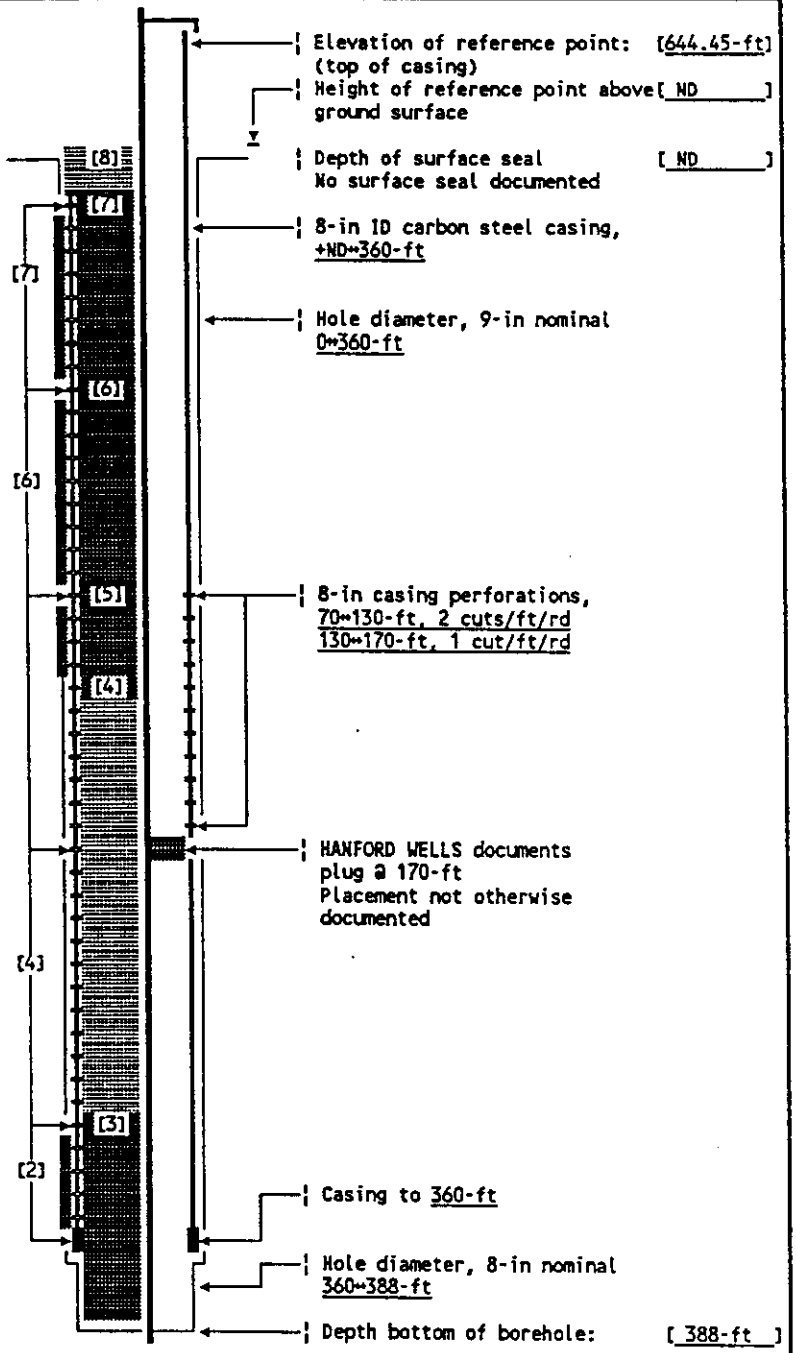
[4] Perforate 170-340-ft. Place sand fill, 125-340-ft, and bentonite crumble plug, 120-125-ft.

[5] Pressure grout 70-120-ft w/neat cement.

[6] Perforate 40-70-ft and pressure grout w/neat cement.

[7] Perforate 3-40-ft and pressure grout w/neat cement.

[8] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N19W88.PLN
Date : 16Aug93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-19-88

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] WHC and PNL water levels, PNL sampling

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[No] No annular seal, has plug @ 170-ft

4b. Aquifer/strata pentrated permanently sealed?
[No] No annualr seal

4c. Annulus sealed against surface water?
[No] No surface seal

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Single casing string

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[N/A] Unconfined aquifer, may interconnect semiconfined

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[No] No permanent identification

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[Yes] Capped and locked

7b. Protective posts, surface pad or cover installed?
[No] No post or pad, cover not applicable

7c. Surface protection waived or variance obtained?
[No]

7d. Is existing surface protection damaged?
[N/a] No surface protection

8. Are casing materials IAW 173-160-520?
[ND] Carbon steel casing

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND]

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-19-88

11. Is design and construction IAW WAC 173-160-5407
[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/a] No filter pack

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND]

13. Data Sources Used:
Logs:
Driller's: Swain/ Co not documented Date: 11/04/57 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
WHC GWWS
Field Check: WHC GWWS Date: 07/29/93 Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use	[No]	No surface/annular seal
Well is acceptable for intended use if variance is granted	[No]	No surface/annular seal
Rehabilitation required to continue intended use	[No]	No fill documented
Remediation required to achieve intended use	[Yes]	Surface seal
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: G. E. Scott
Drilling Company: Not documented
Date Started: Not documented

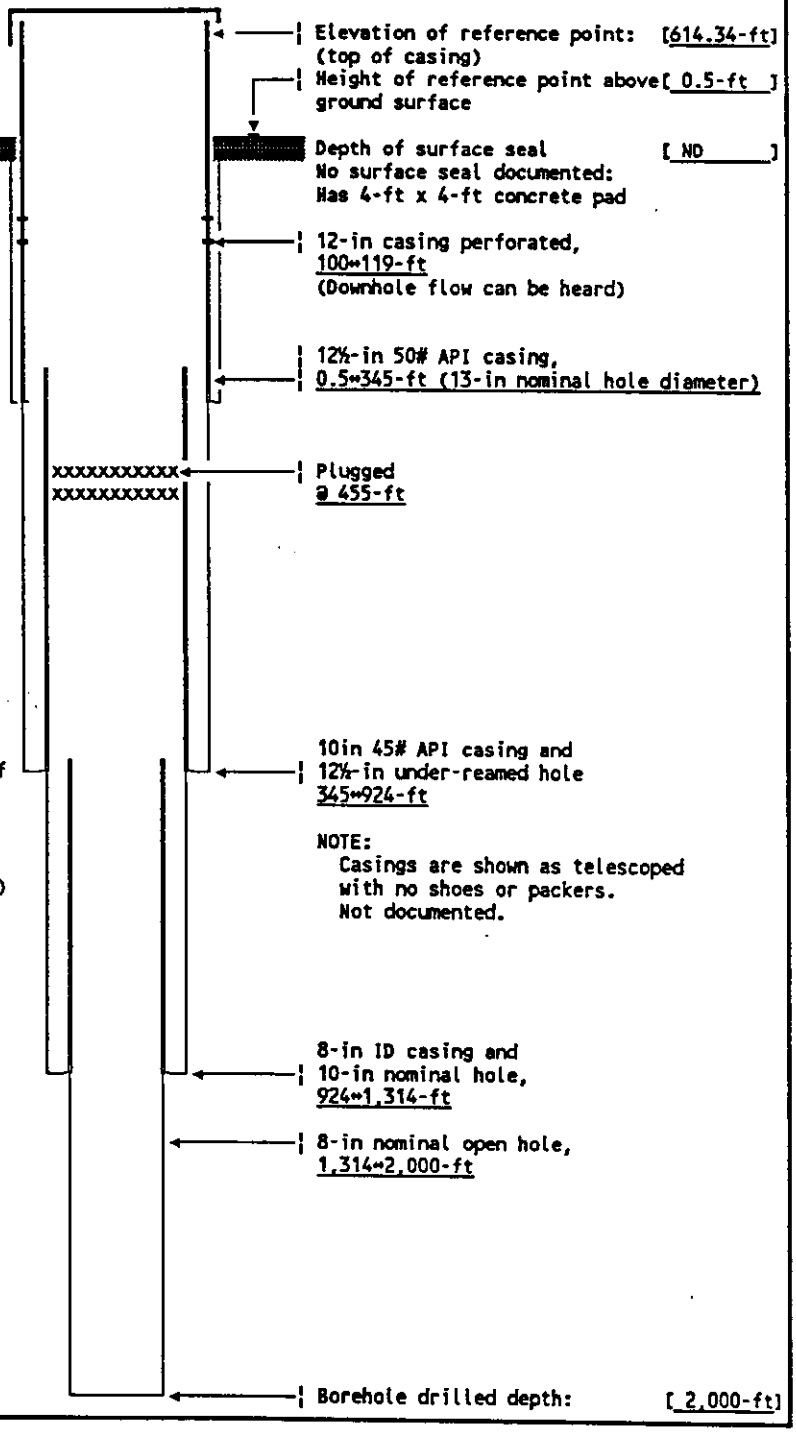
Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 01Mar29

WELL NUMBER: 699-20-82
TEMPORARY Benson WELL NO: Ranch
Hanford Coordinates: N/S N 19,849 E/W W 82,342
State Coordinates: N 424,939.10 E 2,212,931.43
Start Card #: Not documented T 12N R 25E S 26M1
Elevation Ground surface: 613.8-ft Estimated

Depth to water: 127-ft Late28
(Ground surface) 110-ft 01Dec78

GENERALIZED STRATIGRAPHY / Driller's Log

0-6: CLAY
6-30: Dry loose SAND
30-47: Dirty SAND
47-58: Fine SAND
58-68: Coarse GRAVEL
68-74: Cement GRAVEL
74-79: Coarse loose GRAVEL
79-80: Dirty GRAVEL
80-85: Fine pea GRAVEL
85-150: Dirty GRAVEL
150-304: Dirty GRAVEL w/SAND
304-345: Blue CLAY
345-448: Black & gray BASALT
448-471: White sticky CLAY
471-537: Blue CLAY, SAND & part sticky
537-855: Black & gray BASALT
855-886: Blue SHALE & CLAY
886-893: SANDSTONE
893-924: Blue sand SHALE
924-934: Not documented
934-1,085: Black BASALT
1,085-1,172: Gray BASALT
1,172-1,201: Changeable BASALT, black, gray & reddish
1,201-1,203: Yellow CLAy
1,203-1,249: Blue SHALE and trace of white SAND
1,249-1,280: Blue SHALE
1,280-1,281: Brown SHALE
1,281-1,296: Blue SHALE
1,296-1,310: Greenish SHALE (sticky)
1,310-1,438: Black BASALT
1,438-1,450: Rock resembles fine SANDSTONE
1,450-2,000: Gray & black BASALT



Drawing By: RKL/6N20W828.ASB
Date: 27Sep93
Reference: HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: G. E. Scott
Drilling Company: Not documented
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 01Mar29

WELL NUMBER: 699-20-82
TEMPORARY Benson WELL NO: Ranch
Hanford Coordinates: N/S N 19,849 E/W W 82,342
State Coordinates: N 424,939.10 E 2,212,931.43
Start Card #: Not documented T 12N R 25E S 26M1
Elevation Ground surface (ft): Not documented

Depth to water: 127-ft Late28
(Ground surface) ~110-ft 01Dec78

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Drill out plug @ ~455-ft. Clean to total depth. Run TV.

[2] Grout open hole, 1,314-2,000-ft w/neat cement using tremmie. Grout in lifts of <200-ft.

[3] Pull 8-in casing if possible. If not, perforate 925-1,310-ft and place sand fill 1,200-1,314-ft, bentonite plug 1,190-1,200-ft.

[4] Grout 925-1,200-ft w/neat cement using tremmie.

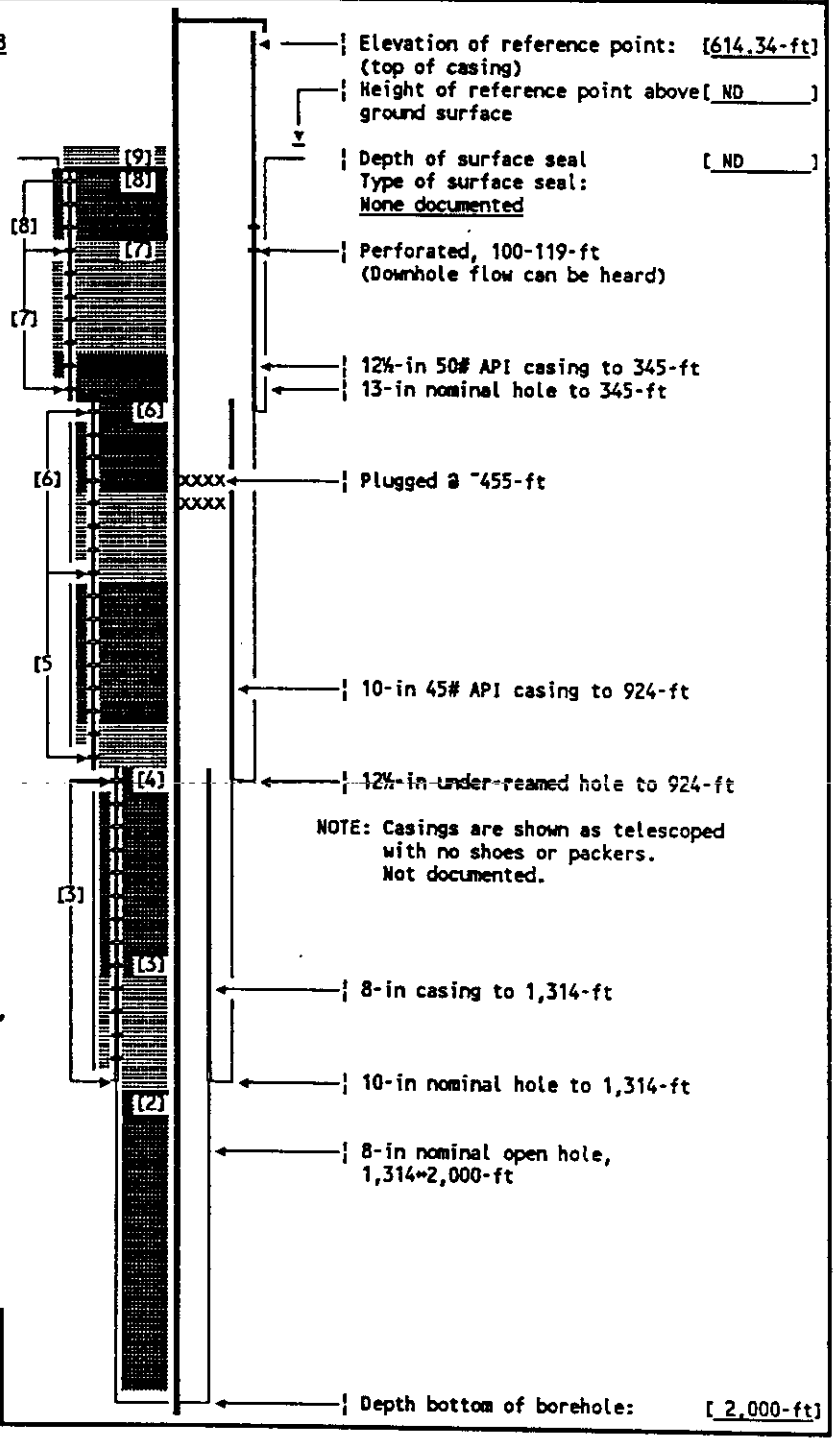
[5] Perforate 10-in casing, 540-920-ft. Place sand fill 850-920-ft; bentonite plug, 840-850-ft and pressure grout 540-840-ft w/neat cement.

[6] Perforate 10-in casing, 350-540-ft. Place sand fill, 445-540-ft; bentonite plug, 440-445-ft and pressure grout 350-440 w/neat cement.

[7] Perforate 12.5-in casing, 100-345-ft. Place cement plug, 340-350-ft; bentonite plug, 330-340-ft and sand fill, 100-330-ft.

[8] Perforate 12.5-in casing, 3-100-ft. Place bentonite plug, 90-100-ft. Grout 3-90-ft w/cement grout.

[9] Remove concrete pad, cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N20W828.PLN
Date: 16Aug93
Reference: HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-20-82

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] PNL sitewide water level monitoring

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[No] Telescoping unsealed casing conects aquifers

4b. Aquifer/strata pentrated permanently sealed?
[No] See 4 above

4c. Annulus sealed against surface water?
[No] Has pad, no surface seal

4d. Casing overlap more than 8 ft; packed and grouted?
[No] Casing does not overlap, is not grouted

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A] Well is capped

6. Is design and construction IAW WAC 173-160-500?
[No] Well has downhole flow

6a. Saturated formation/aquifers not connected?
[No] Aquifers are connected, see 6. above

6b. Cuttings/development water handled IAW WAC 173-303?
[ND] Drilled before applicable date of WAC 173-303

6c. Well properly indentified?
[No] No permanent identification

7. Is surface protection IAW WAC 173-160-510?
[No] Pad only

7a. Well capped and protected?
[Yes] Has locked cap and pad

7b. Protective posts, surface pad or cover installed?
[No] See 7a. above, no posts

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[No]

8. Are casing materials IAW 173-160-520?
[ND] Casing is carbon steel

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[N/A] No screen

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND]

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-20-82

11. Is design and construction IAW WAC 173-160-540?
[N/A] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A] No filter pack

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: G. E. Scott/Co not documented Date: 03/01/29 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
WHC GWWS Well Database
Field Check: WHC GWWS Date: 07/16/93 Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well connects aquifers and has downhole flow. Remediation and/or decommissioning is required. See attached well decommissioning plan unless user requires remediation.

15. Status

Well is acceptable for intended use	[No]	Connects aquifers
Well is acceptable for intended use if variance is granted	[No]	Remediate/decommission
Rehabilitation required to continue intended use	[No]	Remediate/decommission
Remediation required to achieve intended use	[Yes]	See comments
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

No construction data available

No construction data available

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-24-95

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] Rattlesnake Springs ALE water supply

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND] Not document, no construction information available

4a. Natural *barriers* preserved?
[ND]

4b. Aquifer/strata pentrated permanently sealed?
[ND]

4c. Annulus sealed against surface water?
[ND]

4d. Casing overlap more than 8 ft; packed and grouted?
[ND]

5. If not in use, is well capped IAW WAC 173-160-085?
[ND]

6. Is design and construction IAW WAC 173-160-500?
[ND]

6a. Saturated formation/aquifers not connected?
[ND]

6b. Cuttings/development water handled IAW WAC 173-303?
[ND]

6c. Well properly indentified?
[ND]

7. Is surface protection IAW WAC 173-160-510?
[ND]

7a. Well capped and protected?
[ND]

7b. Protective posts, surface pad or cover installed?
[ND]

7c. Surface protection waived or variance obtained?
[ND]

7d. Is existing surface protection damaged?
[ND]

8. Are casing materials IAW 173-160-520?
[ND]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND]

9a. Drill rig/equipment casing/screen cleaned?
[ND]

9b. Filter pack cleaned? Material compatible?
[ND]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND]

10a. Screened interval documented?
[ND]

10b. Vertical lithology documented?
[ND]

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-24-95

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11. Is design and construction IAW WAC 173-160-540?
[ND]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[ND]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[ND]

11c. Well has been developed.
[ND]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[ND]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND]

13. Data Sources Used:
Logs:
Driller's: ND Date: _____ Company: _____
Geologist: ND Date: _____ Company: _____
Geophysical: ND Date: _____ Company: _____
Television: ND Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. T. McGhan, June, 1989

Databases:
N/A

Field Check: None Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] No construction data available.

15. Status

Well is acceptable for intended use	[ND]	Not documented
Well is acceptable for intended use if variance is granted	[ND]	Not documented
Rehabilitation required to continue intended use	[ND]	Not documented
Remediation required to achieve intended use	[ND]	Not documented
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other _____	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: E. Wilcox/L. Smith
Drilling Company: Haden Drilling Co
Date Started: 19Nov62

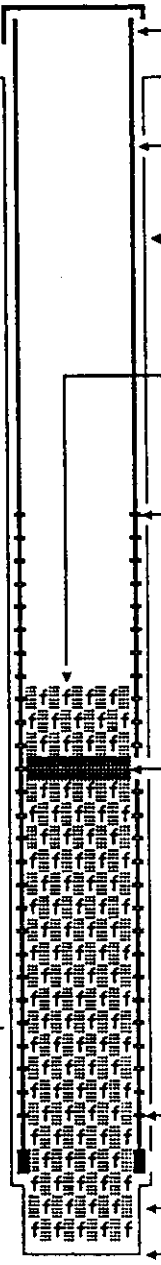
Sample Drive barrel Method: Hard tool
Additives Used: Cable pieces
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 11Dec62

WELL NUMBER: 699-26-89
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 26,000 E/W W 89,000
State Coordinates: N 431,073 E 2,206,258
Start Card #: Not documented T R S
Elevation Ground surface: 652.4-ft Estimated

Depth to water: 334.0-ft 05Dec62
(Ground surface) 182.2-ft 03Jun93

GENERALIZED STRATIGRAPHY / Driller's Log

0-15: Fine SAND & SILT, tan-brown
15-45: Silty fine SAND
45-50: Silty fine SAND w/2-in GRAVEL
50-55: Silty fine SAND & basalt GRAVEL
50-109: Basalt GRAVEL w/SAND, and trace SILT
109-130: CLAY w/some SAND, GRAVEL & SILT
130-139: CLAY w/SAND & SILT
139-145: GRAVEL w/some CLAY, SAND & SILT
145-150: GRAVEL w/trace SILT & SAND
150-155: GRAVEL w/trace CLAY/SILT/SAND
155-160: SAND & SILT & some GRAVEL
160-165: Fine SAND w/GRAVEL tr/SILT
165-175: GRAVEL & SAND, trace SILT
175-180: GRAVEL & SAND w/SILT
180-195: GRAVEL, trace SAND & SILT
195-200: GRAVEL & SAND, w/little SILT
200-220: SAND & GRAVEL trace SILT
220-235: Pea GRAVEL & SAND
235-245: Fine SAND & GRAVEL, tr SILT
245-250: SAND w/GRAVEL & SILT
250-275: SAND w/GRAVEL
275-290: SAND & GRAVEL trace SILT
290-295: GRAVEL & SAND trace SILT
295-307: SAND & GRAVEL
307-315: SILT & GRAVEL some CLAY
315-318: Lt tan shale CLAY w/some SAND
318-325: Black CLAY w/trace SAND
325-355: Black CLAY w/shale CLAY
355-365: Black CLAY w/shale & GRAVEL
365-370: GRAVEL w/some shale
370-380: GRAVEL w/some CALICHE
380-390: GRAVEL w/SAND, trace SILT
390-395: GRAVEL & silty SAND
395-415: GRAVEL & SAND, trace SILT
415-419: SAND, trace SILT
419-428: Yellow CLAY w/little GRAVEL
428-435: Blue CLAY
435-440: Black SILT, trace CLAY
440-460: Black silty CLAY
460-475: Black silty CLAY, SAND & GRAVEL
475-476: Black sandy SILT, trace GRAVEL
476-480: Blue SAND & SILT
480-490: Black SAND & SILT
490-500: BASALT cuttings and SAND



Elevation of reference point: [653.08-ft] (top of casing)
Height of reference point above ground surface [0.7-ft]
Depth of surface seal [ND]
No surface seal documented
8-in ID carbon steel casing, +0.7-492-ft
Hole diameter, 0-492-ft, 9-in nominal
Depth to bottom, 230.4-ft, 03Jun93
8-in casing perforations,
165-198-ft, not documented
198-294-ft, 2 cuts/ft/rd
295-409-ft, 6 cuts/rd/ft
410-419-ft, 2 cuts/rd/ft
420-469-ft, 6 cuts/rd/ft
470-488-ft, 2 cuts/rd/ft
Cement plug, @ 250-ft

REMEDIATION,
Mar80 by M. Bultena
Cleaned well to 250-ft
set cement plug in bottom.

Hole diameter, 492-500-ft, 8-in nominal
Borehole drilled depth: [500-ft]

Drawing By: RKL/6N26W89.ASB
Date : 30Sep93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: E. Wilcox/L. Smith
Drilling Company: Haden Drilling Co
Date Started: 19Nov62

Sample Method: Hard tool
Additives Used: Cable pieces
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 11Dec62

WELL NUMBER: 699-26-89
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 26,000 E/W W 89,000
State Coordinates: N 431,073 E 2,206,258
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 652.4-ft Estimated

Depth to water: 334.0-ft 05Dec62
(Ground surface) 182.2-ft 03Jun93

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

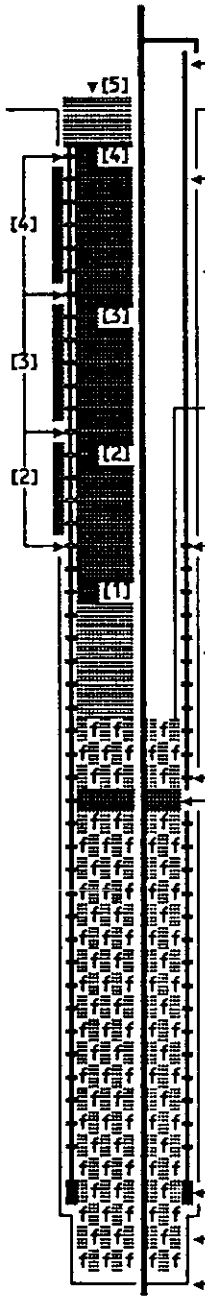
[1] Place sand fill, 180-230-ft; bentonite plug, 175-180-ft.

[2] Perforate, 120-165-ft and pressure grout w/neat cement, 120-175-ft.

[3] Perforate, 60-120-ft and pressure grout w/neat cement.

[4] Perforate, 3-60-ft and pressure grout w/neat cement.

[5] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Elevation of reference point: [653.08-ft] (top of casing)
Height of reference point above ground surface [0.7-ft]
Depth of surface seal [ND]
No surface seal documented
8-in ID carbon steel casing, +0.7-492-ft
Hole diameter, 9-in nominal 0-492-ft
Depth to bottom, 03Jun93 230.4-ft
8-in casing perforations,
165-198-ft, not documented
198-294-ft, 2 cuts/ft/rd
295-409-ft, 6 cuts/rd/ft
410-419-ft, 2 cuts/rd/ft
420-469-ft, 6 cuts/rd/ft
470-488-ft, 2 cuts/rd/ft
Cement plug, @ 250-ft

REMEDIATION,
Mar80 by M. Bultena
Cleaned well to 250-ft
set cement plug in bottom.

Casing to 492-ft
Hole diameter, 8-in nominal 492-500-ft
Depth bottom of borehole: [500-ft]

Drawing By: RKL/6N26W89.PLN
Date : 17Aug93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-26-89

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] WHC and PNL water levels

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[N/A] Unconfined aquifer, may contain semiconfined aquifers

4b. Aquifer/strata pentrated permanently sealed?
[No] No annular seal

4c. Annulus sealed against surface water?
[No] No surface seal or pad

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Single casing string

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A] Capped and locked

6. Is design and construction IAW WAC 173-160-500?
[NO] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[ND] See 4a

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[No] Nor permanent identification

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[No] Well capped, no protection

7b. Protective posts, surface pad or cover installed?
[No]

7c. Surface protection waived or variance obtained?
[No]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[ND] Carbon steel casing

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND] Not documented

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-26-89

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A] No filter pack

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND] Not documented

13. Data Sources Used:
Logs:
Driller's: Wilcox/Smith, Haden Drilling Date: 12/11/62 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
WHC GWWS
Field Check: WHC GWWS Date: 06/03/93 Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use	[No]	No surface/annular seal
Well is acceptable for intended use if variance is granted	[No]	No surface annular/seal
Rehabilitation required to continue intended use	[Yes]	Well has fill
Remediation required to achieve intended use	[Yes]	Surface seal
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: C. Guant/Trantham
Drilling Company: Not documented
Date Started: 20Nov61

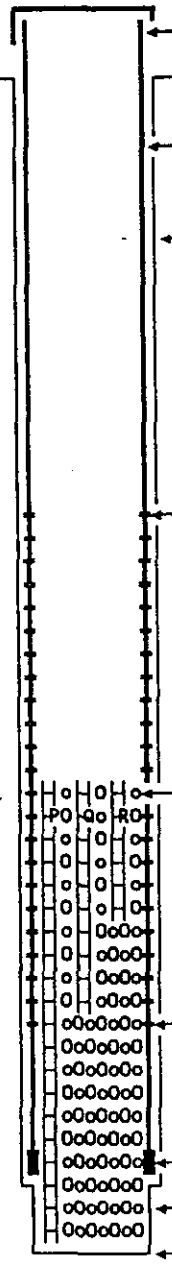
Sample Drive barrel Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented
Date Complete: 10Jan62

WELL NUMBER: 699-36-93
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 36,000 E/W W 93,000
State Coordinates: N 441,063 E 2,202,233
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 642.8-ft Estimated

Depth to water: 190.0-ft 10Jan62
(Ground surface) 172.3-ft 03Jun93

GENERALIZED STRATIGRAPHY / Driller's Log

0-10: Dy real fine SILT
10-35: SILT & fine SAND
35-45: Brown SAND
45-50: SILT w/moisture
50-65: SAND & GRAVEL 6-in COBBLES
65-75: Brown SILT, SAND & GRAVEL 2-3-in
75-115: SAND & GRAVEL, 3-4-in
(Perched water @ 114-ft)
115-120: Brown silty sandy CLAY
120-125: Sandy CLAY & GRAVEL to 4-in
125-140: Grey-brown SAND & GRAVEL
140-154: Fine brown SAND (moist)
154-180: SILT, SAND, GRAVEL to 3-4-in
180-185: Cemented GRAVEL
185-205: SAND & GRAVEL
205-230: SILT, SAND, GRAVEL some cement
230-392: Cemented GRAVEL
392-415: Gray CLAY w/GRAVEL
415-425: Dark gray silty CLAY
425-430: Sticky blue CLAY w/GRAVEL
430-432: Blue & brown CLAY
432-449: Cemented GRAVEL, SILT & SAND
449-455: Blue silty CLAY
455-470: Grey silty CLAY
470-491: Silty sticky CLAY some GRAVEL
491-506: Hard bluegreen SAND
506-520: Black or blue CLAY & SAND
520-540: CLAY w/GRAVEL
540-560: Grey SAND w/CLAY, SILT, ROCK
560-585: Cemented GRAVEL
585-605: Silty CLAY, some SAND & GRAVEL
605-610: SAND & SILT
610-620: SAND, some ROCK
620-625: Silty sandy CLAY
625-650: SAND, some GRAVEL & SILT
650-670: SAND, SILT, CLAY & GRAVEL
670-680: Gravelly silty SAND
680-686: Sticky reddish-brown SILT, SAND & GRAVEL
686-700: Black BASALT



Elevation of reference point: [644.77-ft] (top of casing)
Height of reference point above ground surface [+2.0-ft]
Depth of surface seal [ND]
No surface seal documented
8-in ID carbon steel casing, +2.0-685-ft
Hole diameter, 0-685-ft, 9-in nominal
8-in casing perforations,
170-180-ft, 2 cuts/ft/rd 12Jun64
185-535-ft, 4 cuts/ft/rd 10Jan62
345-365-ft, 4 cuts/rd/ft 12Jun64
425-445-ft, 4 cuts/rd/ft 12Jun64
505-525-ft, 4 cuts/rd/ft 12Jun64
585-605-ft, 4 cuts/rd/ft 12Jun64
535-560-ft, 1 cut/rd/ft 10Jan62
560-590-ft, 6 cuts/rd/ft 10Jan62
605-625-ft, 4 cuts/rd/ft 12Jun64

REMEDIATIONS:
Jun64 by Vincent/Storey/Crowe
Perforated 6-zones and set 6 gravel packed plastic piezometers.
Mar-Apr76 by M Bultena
Cleaned out all piezometer tubes to 475-ft

Casing to 685-ft
Hole diameter, 8-in nominal 685-700-ft
Depth bottom of borehole: [700-ft]

Drawing By: RKL/6N36W93.ASB
Date : 060ct93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: C. Guant/Trantham
Drilling Company: Not documented
Date Started: 20Nov61
Date Complete: 10Jan62

Sample Drive barrel Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Not documented

WELL NUMBER: 699-36-93
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 36,000 E/W W 93,000
State Coordinates: N 441,063 E 2,202,233
Start Card #: Not documented T R S
Elevation Ground surface: 642.8-ft Estimated

Depth to water: 190.0-ft 10Jan62
(Ground surface) 172.3-ft 03Jun93

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Clean out gravel pack and remaining piezometer tubes, 475-700-ft.

[2] Perforate, 625-685-ft.

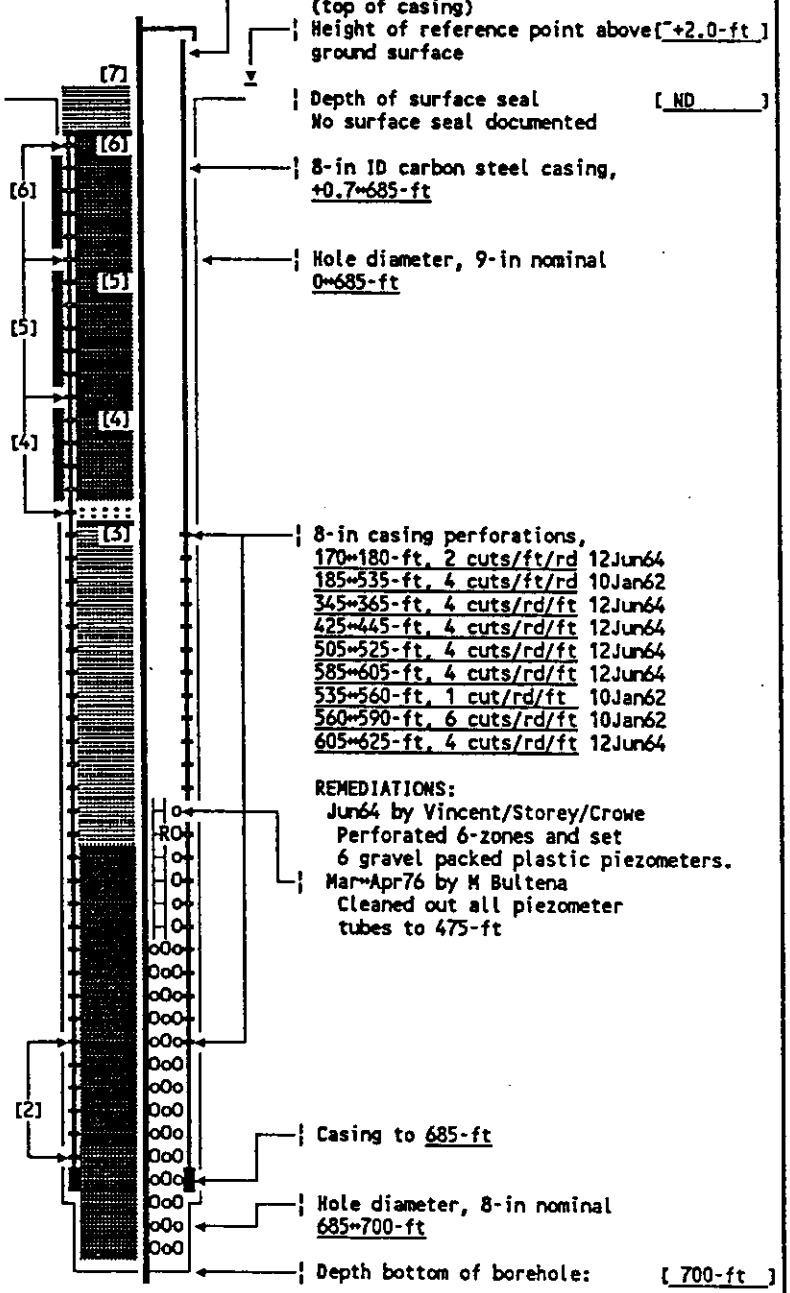
[3] Place neat cement plug, 680-700-ft.; bentonite slurry, 390-680-ft and sand fill, 170-390-ft.

[4] Perforate, 120-170-ft, place bentonite crumbles, 165-170-ft; pressure grout w/neat cement 120-165-ft.

[5] Perforate, 60-120-ft, pressure grout w/neat cement.

[6] Perforate, 3-60-ft, pressure grout w/neat cement.

[7] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Elevation of reference point: [644.77-ft] (top of casing)
Height of reference point above ground surface [+2.0-ft]
Depth of surface seal [ND]
No surface seal documented
8-in ID carbon steel casing, +0.7-685-ft
Hole diameter, 9-in nominal 0-685-ft

8-in casing perforations,
170-180-ft, 2 cuts/ft/rd 12Jun64
185-535-ft, 4 cuts/ft/rd 10Jan62
345-365-ft, 4 cuts/rd/ft 12Jun64
425-445-ft, 4 cuts/rd/ft 12Jun64
505-525-ft, 4 cuts/rd/ft 12Jun64
585-605-ft, 4 cuts/rd/ft 12Jun64
535-560-ft, 1 cut/rd/ft 10Jan62
560-590-ft, 6 cuts/rd/ft 10Jan62
605-625-ft, 4 cuts/rd/ft 12Jun64

REMEDIATIONS:
Jun64 by Vincent/Storey/Crowe
Perforated 6-zones and set 6 gravel packed plastic piezometers.
Mar-Apr76 by M Bultena
Cleaned out all piezometer tubes to 475-ft

Casing to 685-ft
Hole diameter, 8-in nominal 685-700-ft
Depth bottom of borehole: [700-ft]

Drawing By: RKL/6N36W93.PLN
Date : 17Aug93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-36-93

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] WHC and PNL water levels, PNL sampling

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[No] Has gravel packed piezometers, no seals or plugs

4b. Aquifer/strata pentrated permanently sealed?
[No] No seals or plugs

4c. Annulus sealed against surface water?
[No] No surface seal

4d. Casing overlap more than 8 ft; packed and grouted?
[ND] Singles casing string

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Not documented

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[ND] May contain aquifer interconnection

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective data of WAC 173-303

6c. Well properly indentified?
[ND]

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[ND] Cap not documented, assumed capped and locked

7b. Protective posts, surface pad or cover installed?
[No] No posts or pad assumed

7c. Surface protection waived or variance obtained?
[No]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[ND] Carbon steel casing

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed no

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed no

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND] Not documented

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-36-93

11. Is design and construction IAW WAC 173-160-540?
[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A] No filter pack

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND] Not documented

13. Data Sources Used:
Logs:
Driller's: Grant/Trantham, Co ND Date: 01/10/62 Company: _____
Geologist: N/A Date: _____ Company: _____
Geophysical: N/A Date: _____ Company: _____
Television: N/a Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
WHC GWWS

Field Check: N/A Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use	[No]	No surface/annular seal
Well is acceptable for intended use if variance is granted	[No]	No surface/annular seal
Rehabilitation required to continue intended use	[No]	No fill documented
Remediation required to achieve intended use	[Yes]	Surface sela
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other _____	[_____]	_____

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

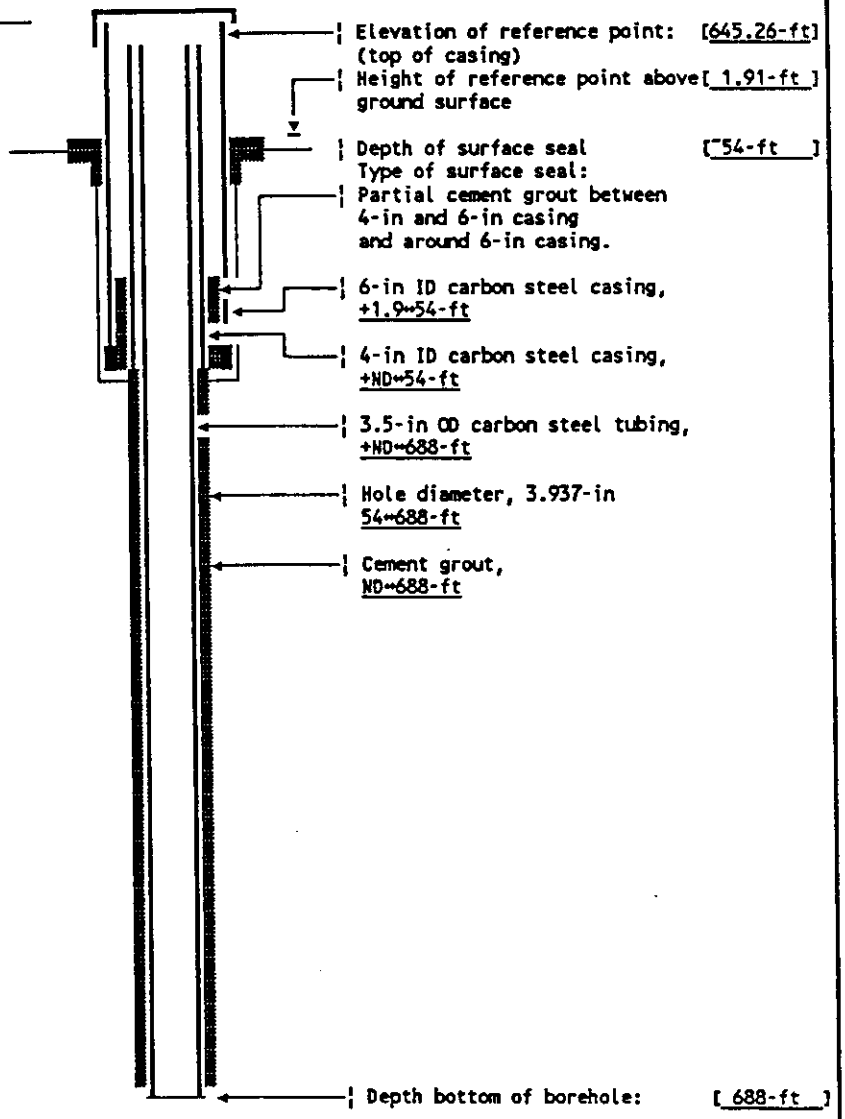
Drilling Method: Cable tool (0-54-ft) Core (54-688-ft)
Drilling Fluid Used: Drilling mud
Driller's Name: Not documented
Drilling Company: Rockwell Hanford
Date Started: 22May81
Sample Method: Wireline core
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Richland, WA
Date Complete: 12Aug81

WELL NUMBER: 699-37-92
TEMPORARY WELL NO: Corehole DH-22
Hanford Coordinates: N/S N 36,578 E/W W 91,786
State Coordinates: N N 441,644.32 E 2,203,445.06
Start Card #: Not documented T12N R25E S 9G1
Elevation Ground surface: 643.35-ft Brass cap

Depth to water: Not documented (Ground surface)

GENERALIZED STRATIGRAPHY / Geologist's Log

0-48: Hanford Formation
48-120: Plio-Pleistocene
120-152: Upper Ringold Unit
152-441: Middle Ringold Unit
441-488: Lower Ringold Unit
488-531: Basal Ringold Unit
531-673: Basalt Ringold (Gravel subunit)
673-688: BASALT (Elephant Mt Member)



Drawing By: RKL/6N37W92.ASB
Date : 060ct93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Cable tool (0-54-ft) Sample
Method: Core (54-688-ft) Method: Wireline core
Drilling Additives
Fluid Used: Drilling mud Used: Not documented
Driller's WA State
Name: Not documented Lic Nr: Not documented
Drilling Company
Company: Rockwell Hanford Location: Richland, WA
Date Date
Started: 22May81 Complete: 12Aug81

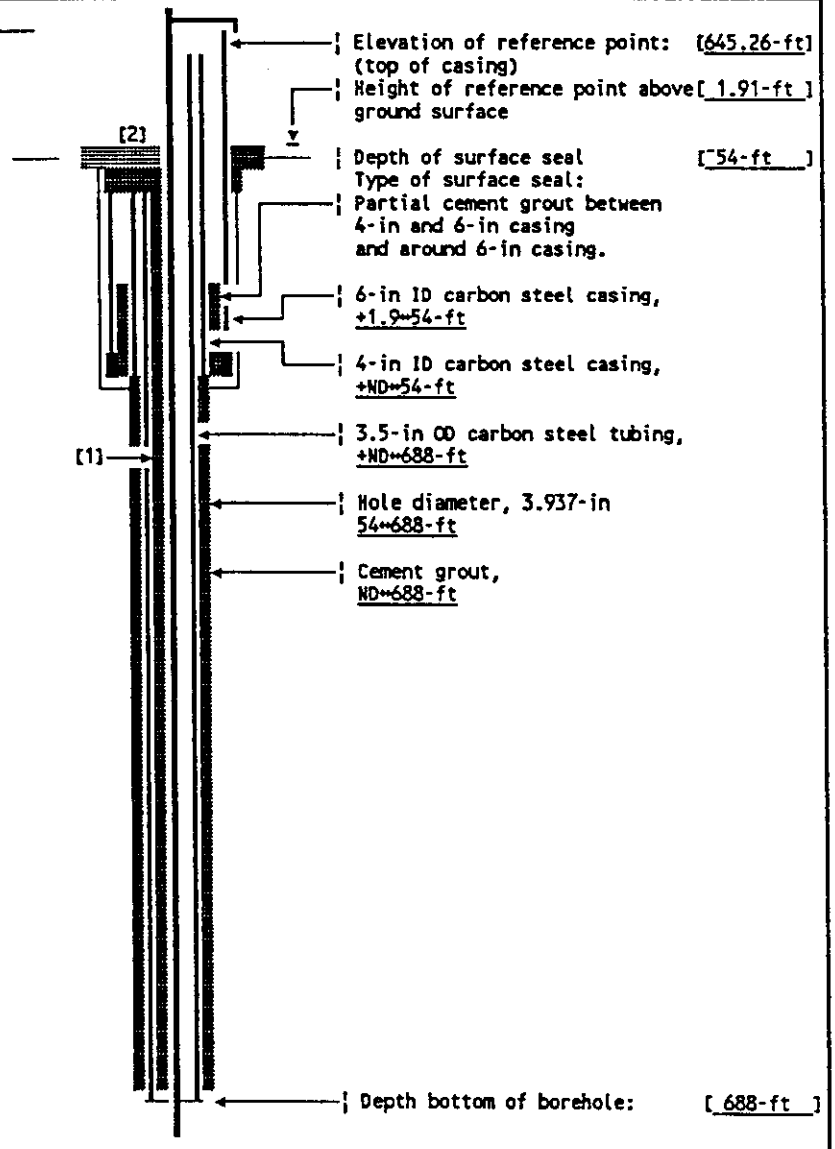
WELL TEMPORARY Corehole
NUMBER: 699-37-92 WELL NO: DH-22
Hanford
Coordinates: N/S N 36,578 E/W W 91,786
State
Coordinates: N N 441,644.32 E 2,203,445.06
Start
Card #:Not documented T12N R25E S 9G1
Elevation
Ground surface (ft): 643.35 Brass cap

Depth to water: Not documented
(Ground surface)

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Grout w/neat cement or bentonite slurry, 3-688-ft in 100-ft lifts.

[2] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N37W92.PLN
Date : 17Aug93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-37-92

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as part of ALE cleanup

3. Is well presently in use?
[Yes] PNL water levels, possible confined monitoring

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] Casing is partially gerouted

4a. Natural barriers preserved?
[No] Casing is grouted but less than 2-in annulus

4b. Aquifer/strata pentrated permanently sealed?
[No] See 4a.

4c. Annulus sealed against surface water?
[Yes] Has partial surface seal to 54-ft

4d. Casing overlap more than 8 ft; packed and grouted?
[Yes] See well construction drawing

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Not documented

6. Is design and construction IAW WAC 173-160-500?
[N/A] Core hole, not monitoring well

6a. Saturated formation/aquifers not connected?
[ND] Not documented

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[ND] Not documented

7. Is surface protection IAW WAC 173-160-510?
[ND] Not documented

7a. Well capped and protected?
[ND] Not documented, assumed capped

7b. Protective posts, surface pad or cover installed?
[ND] Not documented

7c. Surface protection waived or variance obtained?
[ND] No documented

7d. Is existing surface protection damaged?
[ND] Not documented

8. Are casing materials IAW 173-160-520?
[ND] Carbon steel casing

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[No] Not monitoring well

9a. Drill rig/equipment casing/screen cleaned?
[No] Not monitoring well

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A] Not monitoring well

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Geologist's core log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-37-92

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A] Not monitoring well

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A] No filter pack

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] Casing is grouted wtih less than 2-in annulus

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND] Not documented

13. Data Sources Used:
Logs:
Driller's: N/A Date: _____ Company: _____
Geologist: Not-document, Rockwell Hanford Date: 08/21/81 Company: _____
Geophysical: N/A Date: _____ Company: _____
Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:

Field Check: N/A Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Drilled as core hole. Does not meet monitoring well construction criteria.

15. Status

Well is acceptable for intended use	[ND]	No screen
Well is acceptable for intended use if variance is granted	[N/A]	Not applicable
Rehabilitation required to continue intended use	[No]	No fill documented
Remediation required to achieve intended use	[ND]	No remediation planned
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other _____	[_____]	_____

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Air rotary
Drilling Fluid Used: None
Driller's Name: Not documented
Drilling Company: Aqua Drilling Co
Date Started: Mar76

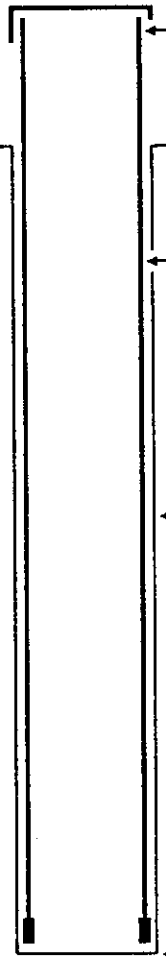
Sample Method: Air returns
Additives Used: None
WA State Lic Nr: Not documented
Company Location: Cour d'Alene ID
Date Complete: Mar76

WELL NUMBER: 699-39-103
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 39,344 E/W W 103,063
State Coordinates: N 444,381 E 2,192,161
Start Card #: Not documented T___ R___ S___
Elevation Ground surface: 888.0-ft Estimated

Depth to water: Not applicable
(Ground surface) Dry hole

GENERALIZED STRATIGRAPHY — Geologist Log

0-17: Fine SAND & SILT
17-20: CALICHE & GRAVEL
20-25: Fine SAND, GRAVEL to 1½-in
25-120: SAND & GRAVEL
120-125: CLAY
125-130: Silty CLAY, few small GRAVELS
130-138: Silty CLAY
138-140: Weathered BASALT
140-161: BASALT



Elevation of reference point: [890.05-ft] (top of casing)
Height of reference point above ground surface [+2.0-ft]
Depth of surface seal [ND]
None documented:
8-in ID carbon steel casing, +2.0-161-ft
NOTE:
May be 6-in casing
Hole diameter, 9-in nominal
0-161-ft, 9-in nominal
Casing is not perforated,
Borehole drilled depth: [161-ft]

Drawing By: RKL/6N39W103.ASB
Date : 06Oct93
Reference : HANFORD WELLS
RHO-LD-158

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Air rotary
Drilling Fluid Used: None
Driller's Name: Not documented
Drilling Company: Aqua Drilling Co
Date Started: Mar76

Sample Method: Air returns
Additives Used: None
WA State Lic Nr: Not documented
Company Location: Cour d'Alene ID
Date Complete: Mar76

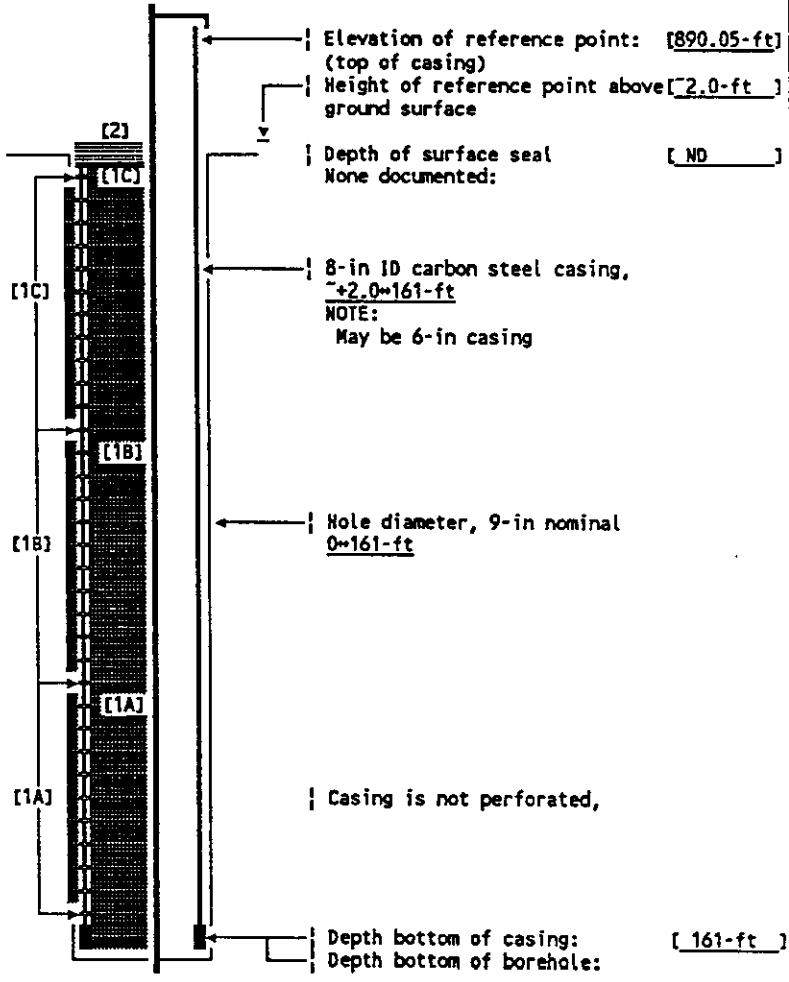
WELL NUMBER: 699-39-103
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 39,344 E/W W 103,063
State Coordinates: N 444,381 E 2,192,161
Start Card #: Not documented T R S
Elevation Ground surface: 888.0-ft Estimated

Depth to water: Not applicable
(Ground surface) Dry hole

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Perforate 3↔161-ft and pressure grout in 3 approx 50-ft± stages.

[2] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N39W103.PLN
Date : 17Aug93
Reference : HANFORD WELLS
RHO-LD-158

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-39-103

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A] No screen

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A] No filter pack

11c. Well has been developed.
[N/A] Well not to water

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: N/A Date: _____ Company: _____
Geologist: Atlantic Richfield Hanford Date: Mar1976 Company: _____
Geophysical: N/A Date: _____ Company: _____
Television: N/A Date: _____ Company: _____

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
N/A

Field Check: N/A Date: _____ Company: _____

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well criteria. Drilled as entrance hole for possible coring, does not reach water.

15. Status

Well is acceptable for intended use	[No]	No intended use
Well is acceptable for intended use if variance is granted	[No]	N/A
Rehabilitation required to continue intended use	[No]	No rehab of value
Remediation required to achieve intended use	[No]	No remediation required
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other _____	[ ]	_____

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29-93

A-6000-451R (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-39-103

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[No] No identified user

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[N/A] Above water table

4b. Aquifer/strata penetrated permanently sealed?
[N/A] See 4a.

4c. Annulus sealed against surface water?
[No] No surface seal

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Single casing string

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[N/A] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[N/A] Not water well

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[No] No permanent identification

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[ND] Not documented

7b. Protective posts, surface pad or cover installed?
[No] No surface protection

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[ND] Carbon steel casing

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[No]

9a. Drill rig/equipment casing/screen cleaned?
[No]

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A] Not to water

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Geologist's log

A-6000-451 (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: H. Hatch
Drilling Company: Hatch Drilling Co
Date Started: 10Oct57

Sample Method: Hard tool (nom)
Additives Used: Cable pieces
WA State Lic Nr: Not documented
Company Location: Pasco WA
Date Complete: 04Nov57

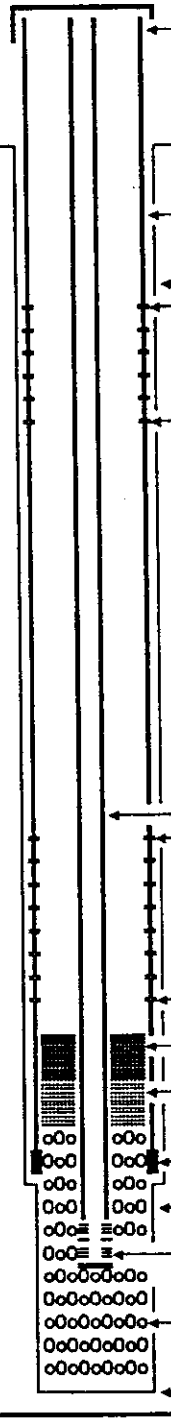
WELL NUMBER: 699-43-104
TEMPORARY WELL NO:
Hanford Coordinates: N/S N 42,979 E/W W 104,298
State Coordinates: N 448,013 E 2,190,917
Start Card #: Not documented T R S
Elevation Ground surface: Not documented

Depth to water: 320.0-ft 04Nov57
(Ground surface) ~269-ft, 02Jun93

GENERALIZED STRATIGRAPHY / Driller's Log

0-4: SILT
4-125: Basalt GRAVEL
125-155: Brown sandy CLAY w/GRAVEL
155-165: SAND & GRAVEL particles
185-215: Cemented SAND & GRAVEL, gray
215-235: Coarse SAND & GRAVEL
235-250: Clean GRAVEL & SAND
250-270: SAND, GRAVEL & SILT
270-275: SAND & GRAVEL clean
275-280: SAND & GRAVEL w/SILT
280-304: SAND & GRAVEL clean
304-320: Sandy CLAY & GRAVEL
320-325: SAND-GRAVEL-SILT, loose
325-350: Yellow CLAY & GRAVEL
350-355: Brown sandy CLAY & basalt GRAVEL
355-375: Green sandy CLAY & basalt GRAVEL
375-380: Hard ROCK-black & some green
380-385: Mixed GRAVEL & CLAY
385-395: BASALT cuttings-some CLAY
395-400: BASALT cuttings
400-424: BASALT
424-455: Grey CLAY w/BASALT & SAND particles
455-458: Runny SAND & little CLAY
458-464: SOAPSTONE float
464 : Indications of BASALT

DRILLING NOTE:
Hit perched water @ 62-ft.
Apparently why original perforations were 52-102-ft.



Elevation of reference point: [766.07-ft] (top of casing)
Height of reference point above ground surface [ND]
Depth of surface seal [ND]
No surface seal documented
8-in ID carbon steel casing, +ND-~395ft
Hole diameter, 0-~395-ft, 9-in nominal
Perched water zone
8-in casing perforations, 52-65-ft, 3 cuts/ft/rd
65-102-ft, 1 cut/ft/rd
278-360-ft, 4 cuts/rd/ft
318-323-ft, 3 cuts/rd/ft

REMEDIATIONS:
Jul69 by D Bigham
Perforated 278-360 and 318-323-ft.
Ran pump test. Lots of sanding.
Aug78 by D Bigham
Cleaned well to 455-ft. Set #60 screen
410-420-ft on 1.5-in tubing.
Packed w/pea gravel, ~390-455-ft.
Noted that hole appears to have large voids below casing.
Back filled with low permeability 380-~390-ft.
Set cement plug, 370-380-ft.
Low permeability plug, 380-~390-ft
Casing to ~395-ft
Hole diameter, ~395-464-ft, 8-in nominal
Screen, #60, 410-420-ft
~390-455-ft
Pea gravel pack, ~390-455-ft
Borehole drilled depth: [464-ft]

Drawing By: RKL/6N43W104.ASB
Date : 11Oct93
Reference : HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Water
Driller's Name: H. Hatch
Drilling Company: Hatch Drilling Co
Date Started: 10Oct57 Date Complete: 04Nov57

Sample Method: Hard tool (nom)
Additives Used: Cable pieces
WA State Lic Nr: Not documented
Company Location: Pasco WA

WELL NUMBER: 699-43-104 TEMPORARY WELL NO:
Hanford Coordinates: N/S N 42,979 E/W W 104,298
State Coordinates: N 448,013 E 2,190,917
Start Card #: Not documented T R S
Elevation Ground surface: Not documented

Depth to water: 320.0-ft 04Nov57
(Ground surface) ~269-ft, 02Jun93

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Pressure grout w/neat cement, 370-464-ft through existing 1.5-in tubing.

[2] Cut 1.5-in tubing @ 370-ft and remove.

[3] Perforate, 260-280, place sand fill 265-370-ft; bentonite crumbles, 260-265-ft.

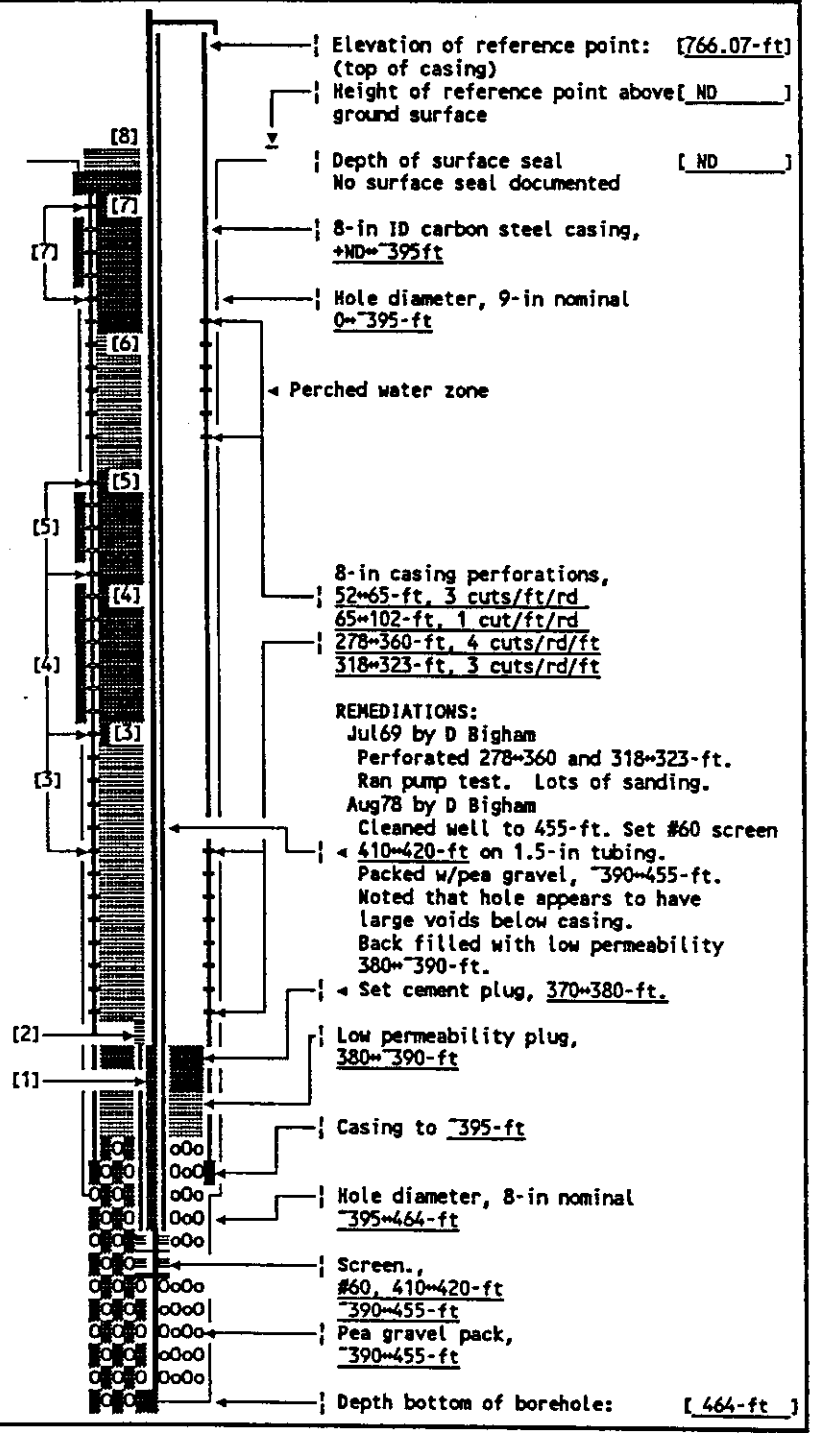
[4] Perforate 200-260-ft and pressure grout 200-260-ft w/neat cement.

[5] Perforate 125-200-ft and pressure grout 125-200-ft w/neat cement.

[6] Place sand plug 55-125-ft,

[7] Perforate 3-52-ft; place bentonite crumbles, 50-55-ft; pressure grout w/neat cement, 3-55-ft.

[8] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N43W104.PLN
Date : 17Aug93
Reference : HANFORD WELLS

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-43-104

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[ND] Well identified for decommissioning as a part of ALE cleanup

3. Is well presently in use?
[Yes] WHC and PNL water levels

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] No surface or annular seal

4a. Natural barriers preserved?
[No] Perched water zone perforated

4b. Aquifer/strata pentrated permanently sealed?
[No] No plugs or seals documented

4c. Annulus sealed against surface water?
[No] No surface or annular seal

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Has 1.5-in piezometer

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[No] Does not meet water well construction standards

6a. Saturated formation/aquifers not connected?
[No] Perched, unconfined and semiconfined may be connected

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before effective date of WAC 173-303

6c. Well properly indentified?
[ND] Not documented

7. Is surface protection IAW WAC 173-160-510?
[No] No surface protection

7a. Well capped and protected?
[ND] Assumed capped and locked

7b. Protective posts, surface pad or cover installed?
[No]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[ND] Not documented

8. Are casing materials IAW 173-160-520?
[ND] Casing is carbon steel

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[ND] Not documented, assumed not

9a. Drill rig/equipment casing/screen cleaned?
[ND] Not documented, assumed not

9b. Filter pack cleaned? Material compatible?
[N/A] No filter pack

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[ND] Not documented

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-43-104

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[No] Does not meet requirements

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[ND] Has screen, type not documented

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[Yes] Filter pack is gravel pack

11c. Well has been developed.
[ND] Not documented

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[No] No annular seal

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[ND] Not documented

13. Data Sources Used:
Logs:
Driller's: Hathc, Hatch Drilling Date: 11/05/57 Company: _____
Geologist: N/A Date: _____ Company: _____
Geophysical: N/A Date: _____ Company: _____
Television: N/A Date: _____ Company: _____
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
WHC GWWS
Field Check: N/A Date: _____ Company: _____
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well does not meet monitoring well criteria. Well interconnects aquifers.

15. Status

Well is acceptable for intended use	[No]	No seals/has interconnection
Well is acceptable for intended use if variance is granted	[No]	
Rehabilitation required to continue intended use	[No]	
Remediation required to achieve intended use	[Yes]	Surface seal/reduce interval
Decommission, well is unneeded or cannot be remediated	[Yes]	Required for ALE cleanup
Other _____	[_____]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Strasser Drilling Co
Date Started: Not documented

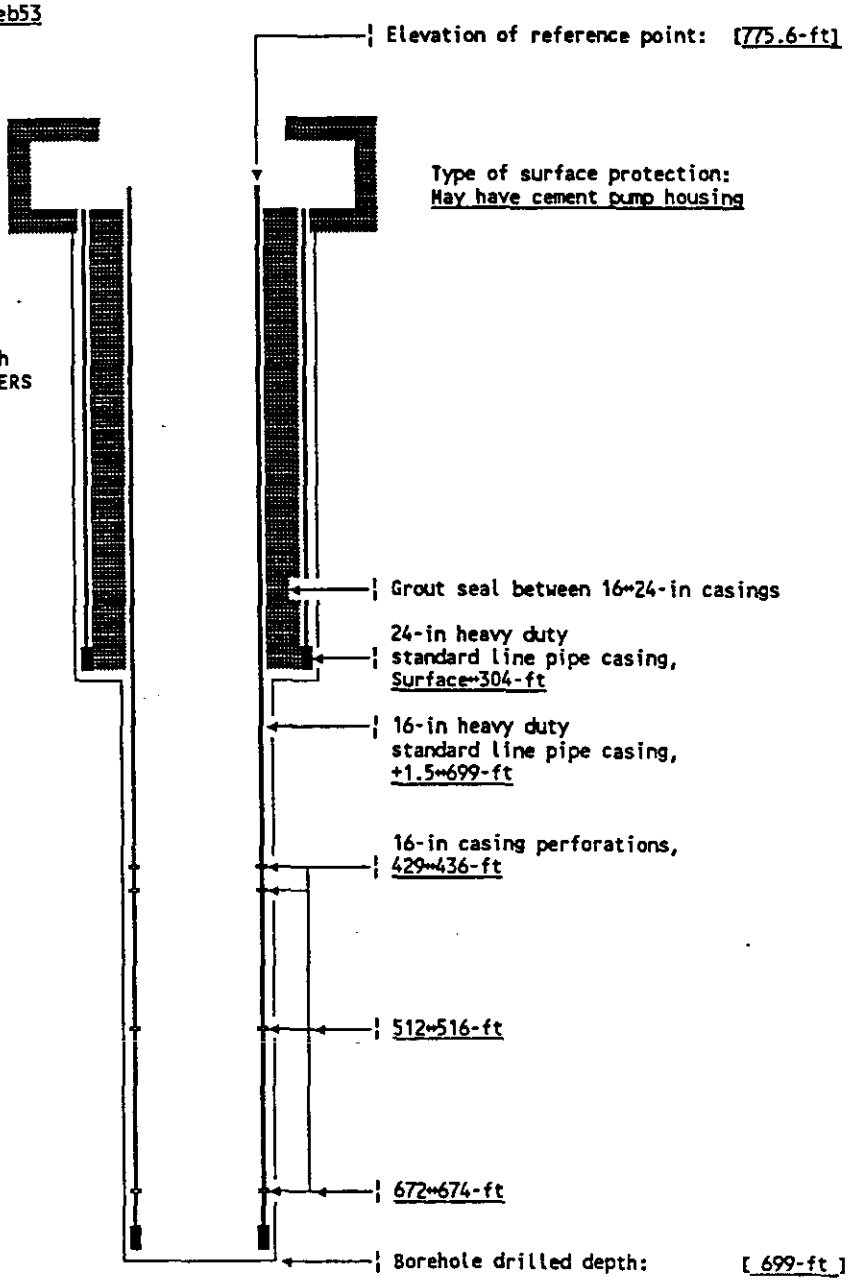
Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location Portland, OR
Date Complete: Feb53

WELL NUMBER: 699-79-104
TEMPORARY PSN 82 WELL NO: Well-515
Hanford Coordinates: N/S N 79,000 E/W W 104,000
State Coordinates: N 484,035 E 2,191,122
Start Card #: Not documented T14N R25E S31M1
Elevation Ground surface: 775.0-ft Estimated

Depth to water: 375.7-ft 10Feb53

GENERALIZED Driller's STRATIGRAPHY Log

0-5: TOPSOIL
5-37: Loose black SAND
37-60: Gravelly SAND
60-130: Coarse GRAVELS w/COBBLES & BOULDERS
130-166: Clayey GRAVEL
166-219: Brown & black SAND
219-294: Clayey SAND
294-340: Sandy GRAVEL cemented in part with some COBBLES & BOULDERS
340-429: Clayey sandy GRAVEL
429-450: Sandy GRAVEL with littel CLAY
450-512: Clayey sandy GRAVEL
512-516: Sandy GRAVEL
516-672: Sandy clayey GRAVEL
672-684: Sandy GRAVEL with very little CLAY
684-699: Clayey sandy GRAVEL



Drawing By: RKL/6N79W104.ASB
Date: 02Nov93
Reference: COE 71-05-37 27Feb57

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: Feb53

WELL NUMBER: 699-79-104
Hanford Coordinates: N/S N 79,000 E/W W 104,000
State Coordinates: N 484,035 E 2,191,122
Start Card #: Not documented
T14N R25E S31M1
Elevation Ground surface (ft): 775.0

TEMPORARY PSN 82
WELL NO: Well-515

Depth to water: 375.7-ft 10Feb53

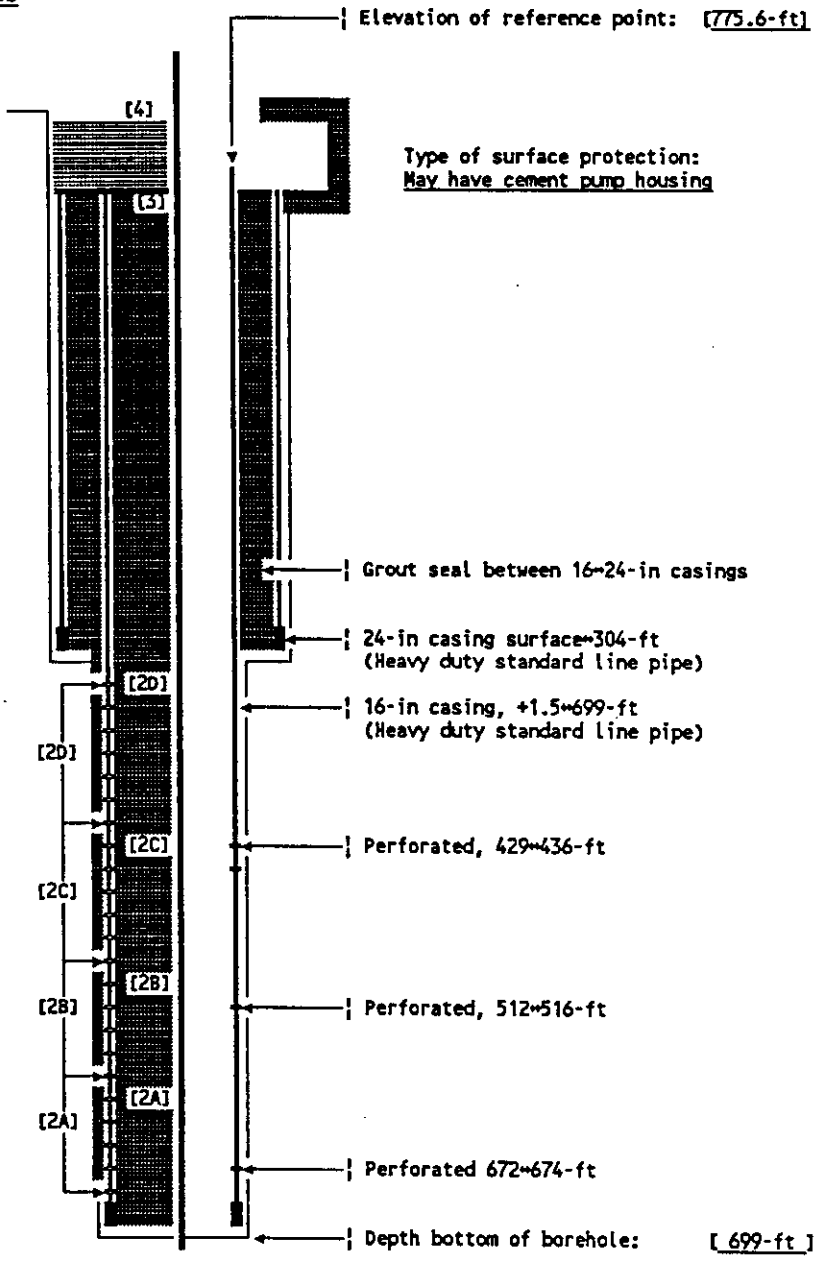
DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Clean well to bottom.

[2] Perforate 305-695-ft and pressure grout in approximately 4 stages.

[3] Fill inside of 16-in casing to w/neat cement to ~ 3-ft.

[4] Remove any pump structure and pad. Cut casing @ 3-ft or more, place concrete or metal cap, fill to grade and compact.



Drawing By: RKL/6N79W104.PLN
Date: 11Jun93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-79-104

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Well is abandoned, but has not been decommissioned

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[Yes] Casings are sealed, see attached construction drawing

4a. Natural barriers preserved?
[Yes] See drawing

4b. Aquifer/strata penetrated permanently sealed?
[N/A] Well does not penetrate basalt confined aquifers

4c. Annulus sealed against surface water?
[Yes] Has grouted entrance casing to 304-ft

4d. Casing overlap more than 8 ft; packed and grouted?
[Yes] See drawing

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Capping method not documented

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is not a resource protection well

6a. Saturated formation/aquifers not connected?
[N/A] Well is water well

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before applicable date of WAC 173-303

6c. Well properly indentified?
[N/A] Well has no permanent identification

7. Is surface protection IAW WAC 173-160-510?
[N/A] Well is not resource protection well

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's Log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-79-104

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A] Well is not resource protection well

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Co Date: 02/28/53 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
N/A
Field Check: N/A Date: Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented use. Decommissioning is recommended. See attached diagrammatic well decommissioning plan.

15. Status

Well is acceptable for intended use	[No]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[N/A]	
Rehabilitation required to continue intended use	[Yes]	Cleanout/redevelop
Remediation required to achieve intended use	[No]	Construction acceptable
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY AS-BUILT

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: Not documented

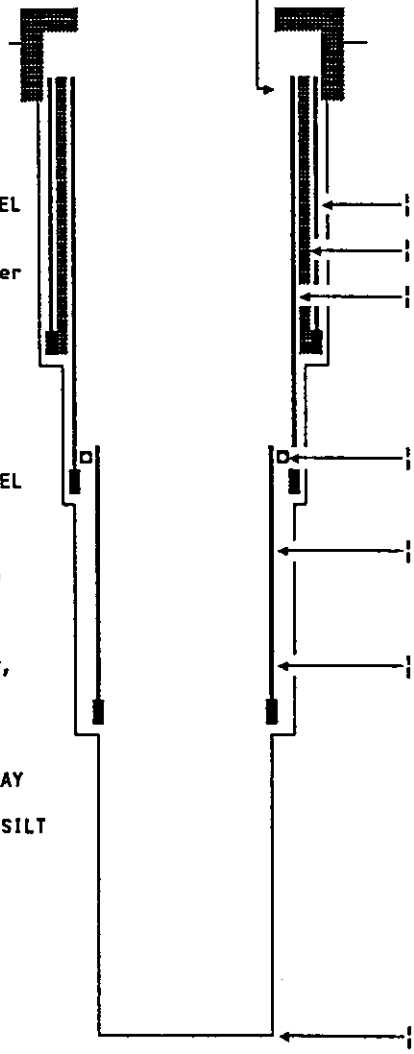
WELL NUMBER: 699-86-95
TEMPORARY WELL NO: PSN H83C
Hanford Coordinates: N/S N 86,000 E/W W 95,000
State Coordinates: N 491,058 E 2,200,105
Start Card #: Not documented T14N R25E 28E1
Elevation Ground surface: 871-ft Estimated

Depth to water: ~483-ft Not documented

Elevation of reference point: ~873-ft

GENERALIZED Driller's STRATIGRAPHY Log

0-16: Coarse SAND
16-33: Coarse SAND-some GRAVEL
33-46: SAND
46-51: SAND, some GRAVEL
51-69: SAND w/CLAY binder
69-123: Packed SAND, some GRAVEL
123-142: SAND w/CLAY binder
142-149: SAND & GRAVEL
149-206: Dirty SAND, CLAY binder
206-215: Packed SAND
215-219: Dirty SAND
219-227: SAND & GRAVEL
227-236: SAND w/CLAY binder
236-249: Packed SAND
249-331: Dirty SAND
331-341: SAND, some GRAVEL
341-354: Fine brown SAND
354-369: SAND, some large GRAVEL
369-396: SAND & GRAVEL
396-417: Dirty SAND
417-423: SAND, some GRAVEL
423-483: SAND, w/GRAVEL >>6-in
483-511: SAND & GRAVEL (Water bearing)
511-538: SAND w/CLAY binder coated with blue clay,
538-547: Cemented GRAVEL
547-569: SAND & GRAVEL (Water bearing)
569-577: SAND, GRAVEL & CLAY
577-593: GRAVEL, BOULDERS & CLAY
593-607: SAND & GRAVEL
607-616: Large GRAVEL, SAND & SILT
616-623: Cemented GRAVEL
623-648: GRAVEL & CLAY



NOTE: Construction details not documented but assumed to similar to other wells of this depth.
Type of surface protection: Not documented

20 or 24-in casing
Assumed surface-Not documented
Cement grout assumed

16-in casing,
Assumed surface-Not documented

Lead packer assumed at top of 12-in liner

12-in liner w/drive shoe assumed

No perforations documented

Borehole drilled depth: [648-ft]

Drawing By: RKL/6N86W95.ASB
Date: 02Nov93
Reference: COE 71-05-37 27Feb57

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool	Sample Method: Hard tool
Drilling Fluid Used: Not documented	Additives Used: Not documented
Driller's Name: R. J. Strasser (?)	WA State Lic Nr: Not documented
Drilling Company: Strasser Drilling Co	Company Location Portland, OR
Date Started: Not documented	Date Complete: Not documented

WELL NUMBER: 699-86-95	TEMPORARY WELL NO: PSN H83C
Hanford Coordinates: N/S N 86,000	E/W W 95,000
State Coordinates: N 491,058	E 2,200,105
Start Card #: Not documented	T14N R25E 28E1
Elevation Ground surface (ft): 871-ft	

Depth to water: ~483-ft Not documented

DIAGRAMMATIC
DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Clean out to bottom.

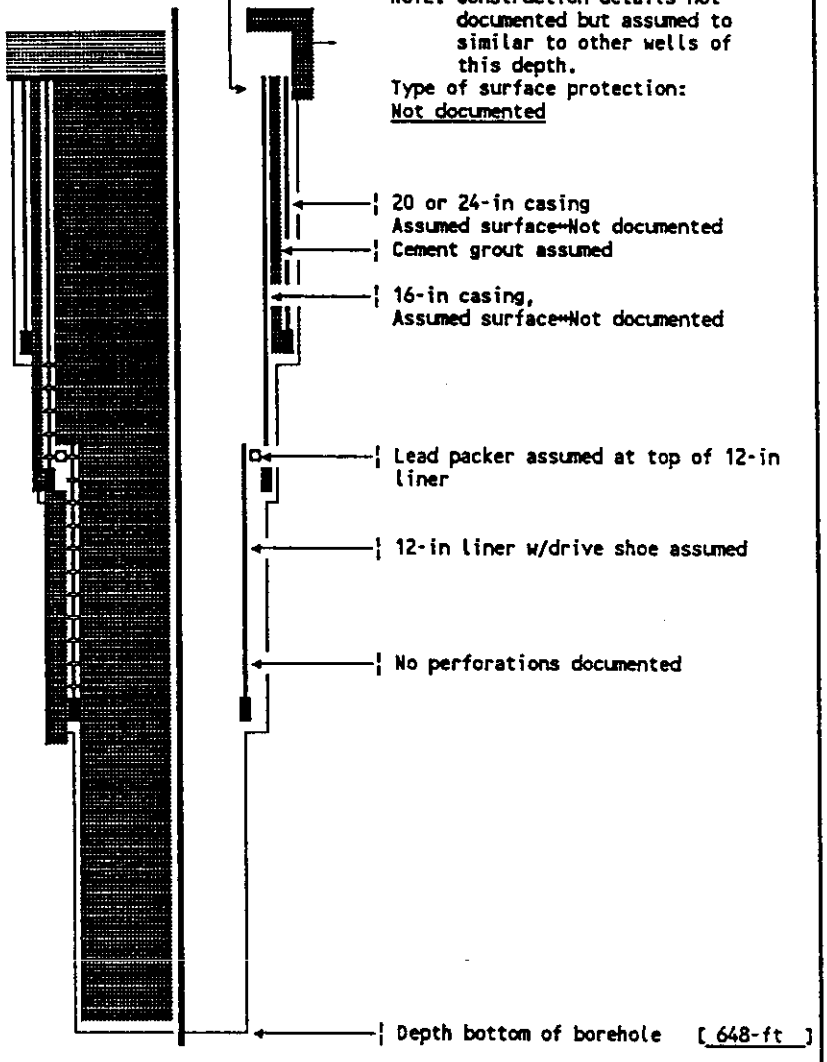
[2] Run TV with verified depth readings to determine as-built condition and diameters.

[3] Grout open hole section w/neat cement in <100-ft lifts.

[4] Perforate and grout liners as determined in <100-ft stages to refusal of perforator.

[5] Fill upper casing to bottom of pump structure w/neat cement.

[6] Remove pump structure and pad, place metal or concrete cap, fill to grade and compact.



Drawing By: RKL/6N86W95.PLN
Date: 17Aug93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-86-95

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Well is abandoned, but has not been decommissioned

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND] Construction not well documented

4a. Natural barriers preserved?
[ND]

4b. Aquifer/strata pentrated permanently sealed?
[ND] Well does not penetrate basalt confined aquifers

4c. Annulus sealed against surface water?
[ND]

4d. Casing overlap more than 8 ft; packed and grouted?
[ND]

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Capping method not documented

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is not a resource protection well

6a. Saturated formation/aquifers not connected?
[N/A] Well is water well

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Well drilled before applicable date of WAC 173-303

6c. Well properly indentified?
[No] Well has no permanent identification

7. Is surface protection IAW WAC 173-160-510?
[N/A] Well is not resource protection well

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-86-95

11. Is design and construction IAW WAC 173-160-540?
[N/A] Well is not resource protection well

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling, Portland OR Date: ND Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
N/A
Field Check: N/A Date: Company:
Other:
N/A

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented need for use. Decommissioning is recommended. See attached diagrammatic well decommissioning plan.

15. Status

Well is acceptable for intended use	[No]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[No]	Rehabilitation required
Rehabilitation required to continue intended use	[Yes]	Cleanout/redevelop
Remediation required to achieve intended use	[No]	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 10Nov53

WELL NUMBER: 699-92-14
Hanford Coordinates: N/S N 92,000 E/W W 14,000
State Coordinates: N 497,266 E 2,281,000
Start Card #: Not documented
T14N R27E S24C1
Elevation Ground surface: Not documented

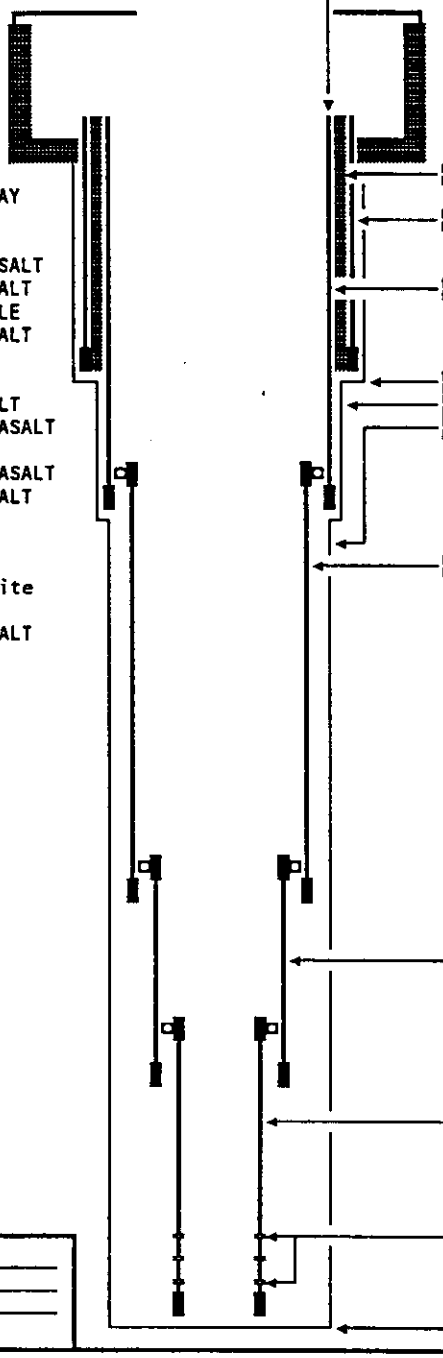
TEMPORARY WELL NO: PSN 505, #9

Depth to water: 383-ft Nov53

Elevation of reference point: 862.01-ft (Top of casing)

GENERALIZED Driller's STRATIGRAPHY Log

0-3: CLAY, SILT, TOP SOIL
3-9: CALICHE
9-206: Light brown CLAY
206-573: Blue, brown green CLAY
573-580: Pea GRAVEL with CLAY
580-589: SANDSTONE
589-601: Hard gray BASALT
601-631: Soft red porous BASALT
631-697: Black and gray BASALT
697-730: Green and blue SHALE
730-874: Black and gray BASALT
874-883: Porous red ROCK and CLAY
883-1027: Porous black BASALT
1027-1165: Black and gray BASALT
1165-1191: Blue CLAY
1191-1246: Gray and black BASALT
1246-1261: Porous black BASALT
1261-1276: CONGLOMERATE
1276-1283: Blue CLAY
1283-1291: CONGLOMERATE, rotten wood, pyrite
1291-1371: Black BASALT
1371-1393: Porous black BASALT
1393-1396: BASALT



Type of surface protection: Concrete pump housing
Grout between 16-20-in casing

20-in carbon steel casing, Surface-297-ft w/drive shoe

16-in carbon steel casing, Surface-576-ft w/drive shoe

Hole diameter,
0-297-ft, 21-in nominal
297-576-ft, 17-in nominal
576-1,396-ft, 16-in nominal
NOTE: Hole diameter may be less than 16-in. However, a pump test was documented in 16-in hole to 1,396-ft.

12-in carbon steel liner, 558-1,038-ft
Lead packer at top and drive shoes at top and bottom.

10-in carbon steel liner, 1,028-1,201-ft
Lead packer at top and drive shoes at top and bottom

8-in carbon steel liner, 1,185-1,396-ft
Lead packer at top and drive shoes at top and bottom

8-in casing perforations, 1,370-1,393-ft, 9 cuts/ft
Cuts %x4-in

Borehole drilled depth: [1,396-ft]

Drawing By: RKL/6N92W14.ASB
Date: 03Nov93
Reference:

DIAGRAMMATIC WELL DECOMMISSIONG PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 10Nov53

WELL NUMBER: 699-92-14
Hanford Coordinates: N/S N 92,000
State Coordinates: N 497,266
Start Card #: Not documented
Elevation Ground surface (ft): Not documented

TEMPORARY WELL NO: PSN 505, #9
E/W W 14,000
E 2,281,000
T14N R27E S24C1

Depth to water: 383-ft Nov53

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Clean out well. Run TV.

[2] Perforate 8-in liner, 1,190-1,395-ft. Grout w/neat cement in 2-3 stages. Hole size may not be 16-in, therefore cement volume and fill-up must be carefully monitored.

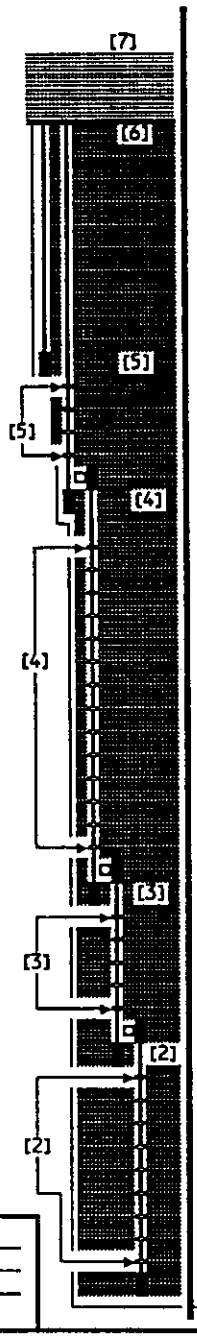
[3] Perforate 10-in liner, 1,030-1,200-ft. Grout w/neat cement in 2-3-stages.

[4] Perforate 12-in liner, 560-1,035-ft. Grout w/neat cement in 3-4-stages.

[5] Perforate and pressure grout 16-in casing 300-555-ft in 2-3 stages.

[6] Fill 16-in casing from bottom of pump structure to 300-ft using tremmie pipe.

[7] Remove pump structure and pad. Place metal or concrete cap, fill to grade and compact.



Elevation of reference point: 862.01-ft (Top of casing)

Type of surface protection: Concrete pump housing
Grout between 16-20-in casing

20-in casing, surface-297-ft
Carbon steel w/steel drive shoe
Concrete grout

16-in casing, surface-576-ft
carbon steel w/steel drive shoe

Lead packer at top of 12-in liner

12-in liner, 558-1,038-ft
drive shoes at top and bottom of liner

Lead packer at top of 10-in liner

10-in liner, 1,028-1,201-ft
drive shoes at top and bottom of liner

Lead packer at top of 8-in liner

8-in liner, 1,185-1,396-ft
drive shoes at top and bottom of liner

Perforated 1,370-1,393-ft
9 cuts/ft
3/8x4-in

Bottom of borehole 1,396-ft

Drawing By: RKL/6N92W14.PLN
Date: 17Aug93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-92-14

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Well is abandoned, but has not been decommissioned

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] Has surface seal, no downhole seal, see attached as-built

4a. Natural barriers preserved?
[ND] No downhole annular seals

4b. Aquifer/strata pentrated permanently sealed?
[No] See 4a above

4c. Annulus sealed against surface water?
[Yes] Has surface seal and concrete pump housing

4d. Casing overlap more than 8 ft; packed and grouted?
[Yes] Casing overlap >8-ft, has lead packers, no grout

5. If not in use, is well capped IAW WAC 173-160-085?
[Yes] Has metal cap inside housing

6. Is design and construction IAW WAC 173-160-500?
[N/A] Not resource protection well

6a. Saturated formation/aquifers not connected?
[N/A]

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A]

6c. Well properly indentified?
[No] No permanent identification

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A] No screen

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-92-14

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Portland OR Date: 11/10/53 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
N/A

Field Check: WHC GWWS Date: 07/08/93 Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented need for use. Decommissioning is recommedned. See attached diagrammatic well decommissioning plan.

15. Status

Well is acceptable for intended use	[No]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[No]	Rehabilitation required
Rehabilitation required to continue intended use	[Yes]	Cleanout/redevelop
Remediation required to achieve intended use	[No]	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Strasser Drilling Co
Date Started: Not documented

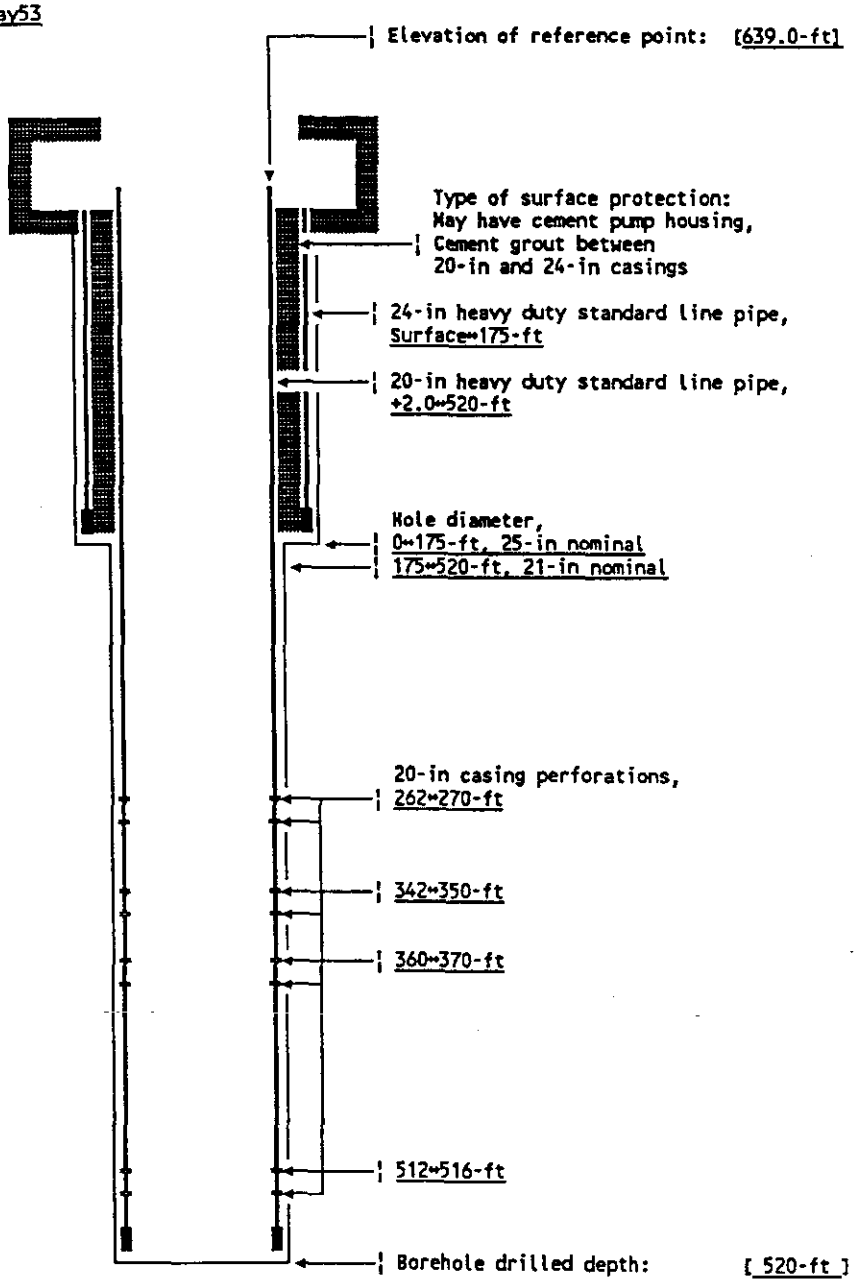
Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: May53

WELL NUMBER: 699-93-93
TEMPORARY PSN H 83 L WELL NO: Well-525
Hanford Coordinates: N/S N 93,000 E/W W 93,000
State Coordinates: N 498,000 E 2,202,000
Start Card #: Not documented T14N R24E S21B1
Elevation Ground surface: 637.0-ft Estimated

Depth to water: 240.0-ft 04May53

GENERALIZED Driller's STRATIGRAPHY Log

0-77: Fine gray SAND
77-147: Clayey SAND-sandy CLAY
147-153: Gray SAND
153-197: Clayey SAND-sandy CLAY
197-214: Sandy clayey GRAVEL
214-227: Cemented GRAVEL
227-245: Sandy clayey GRAVEL
245-251: Cemented GRAVEL
251-258: Sandy clayey GRAVEL
258-268: Cemented GRAVEL
268-288: Sandy gravelly CLAY
288-310: CLAY
310-325: Sandy GRAVEL
325-342: Light brown CLAY
342-345: Loose sandy GRAVEL
345-367: Sandy clayey GRAVEL
367-371: Cemented GRAVEL
371-378: Sandy clayey GRAVEL
378-407: Cemented GRAVEL
407-429: Yellow CLAY
429-453: Gravelly CLAY
453-480: Blue SHALE
480-506: Sandy CLAY
506-513: Sandy clayey GRAVEL
513-520: Cemented GRAVEL



Drawing By: RKL/6N93W93.ASB
Date: 03Nov93
Reference: COE 71-05-37 27Feb57

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: Not documented
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location Portland, OR
Date Complete: May53

WELL NUMBER: 699-93-93
TEMPORARY PSN N 83 L WELL NO: Well-525
Hanford Coordinates: N/S N 93,000 E/W W 93,000
State Coordinates: N 498,000 E 2,202,000
Start Card #: Not documented T14N R24E S21B1
Elevation Ground surface (ft): 637.0

Depth to water: 240.0-ft 04May53

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

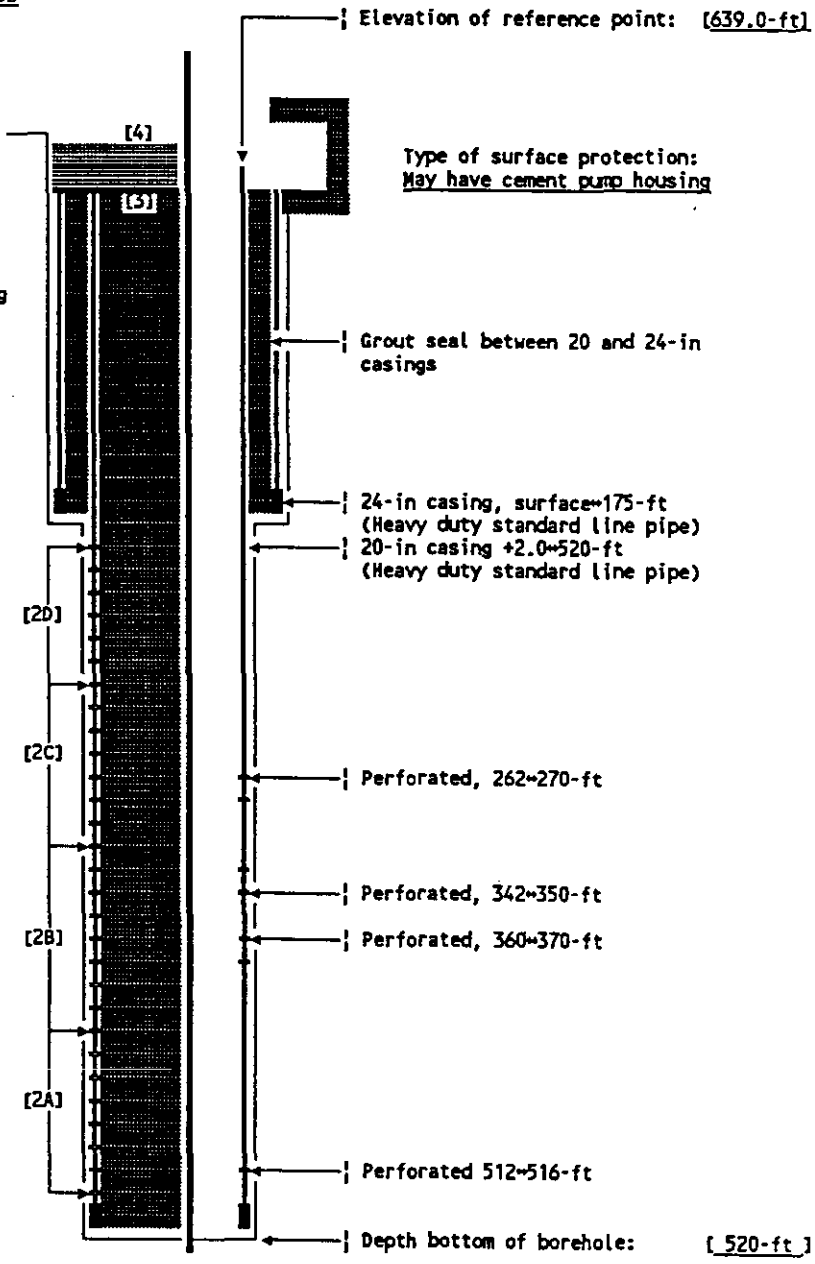
[1] Clean out well, run TV.

[2] Perforate 180-520-ft, and grout w/neat cement using tremmie pipe in 3-4 stages.

[3] Fill inside of 20-in casing to bottom of pump structure w/neat cement.

[4] Remove pump structure and pad. Place metal or concrete cap, fill to grade and compact.

NOTE:
Order of work to be determined by field conditions.



Drawing By: RKL/6N93W93.PLN
Date: 18Aug93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-93-93

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Well is abandoned,but has not been decommissioned

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[No] Has surface seal, no downhole seals, see attached as-built

4a. Natural barriers preserved?
[ND] No downhole annular seals

4b. Aquifer/strata pentrated permanently sealed?
[No] See 4a above

4c. Annulus sealed against surface water?
[Yes] Has surface seal

4d. Casing overlap more than 8 ft; packed and grouted?
[N/A] Surface seal casing grouted

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Not documented

6. Is design and construction IAW WAC 173-160-500?
[N/A] Not resource protection well

6a. Saturated formation/aquifers not connected?
[N/A]

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A]

6c. Well properly indentified?
[No] No permanent identification

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-93-93

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Portland OR Date: May53 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
N/A
Field Check: N/A Date: Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented need for use. Decommissioning is recommended. See attached diagrammatic well decommissioning plan.

15. Status

Well is acceptable for intended use	[No]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[No]	Rehabilitation required
Rehabilitation required to continue intended use	[Yes]	Cleanout/redevelop
Remediation required to achieve intended use	[No]	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

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WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 10May52

WELL NUMBER: 699-107-79
TEMPORARY WELL NO: #2-PSN 410
Hanford Coordinates: N/S N 107,000 E/W W 78,890
State Coordinates: N 512,000 E 2,216,200
Start Card #: Not documented T14N R25E S1D
Elevation Ground surface: Not documented

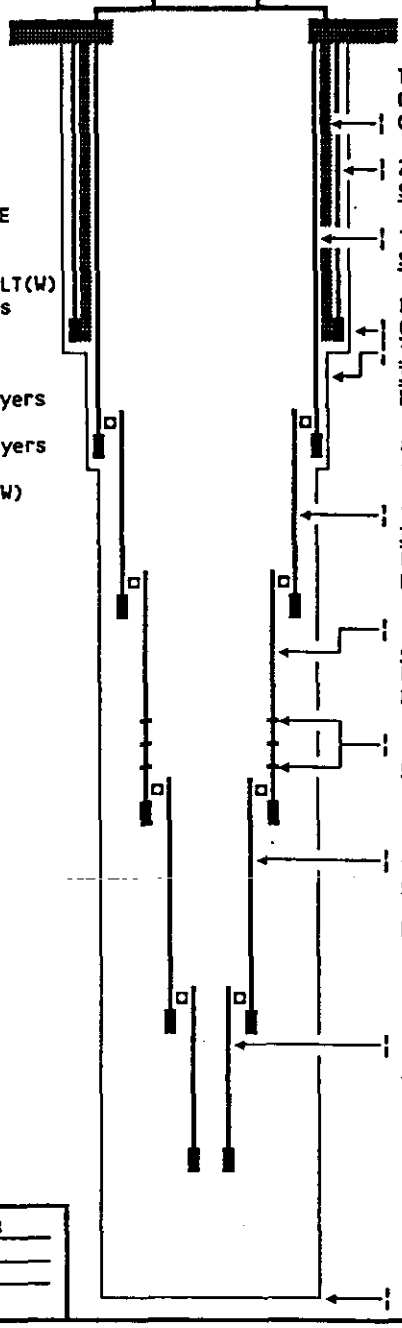
Depth to water: 182 ft May52

Has pump installed

Elevation of reference point: 659.02 ft (Top of casing)

GENERALIZED Driller's STRATIGRAPHY Log

0-12: TOPSOIL, sandy SILT
12-21: CALICHE
21-63: GRAVEL
63-183: CLAY and sandy SHALE
183-249: Sandy CLAY (W)
249-252: CALICHE
252-355: SAND, CLAY and SHALE
355-625: BASALT, hard, gray
625-630: BASALT, broken (W)
630-663: Brown CLAY and BASALT(W)
663-680: BASALT with crevices
680-685: BASALT with CLAY layers
685-753: Porous BASALT
753-895: BASALT with CLAY layers
895-900: SAND (W)
900-906: SAND with BASALT layers
906-924: BASALT
924-938: White porous ROCK (W)



Type of surface protection: Concrete pump housing
Grout between 16-20 in casing

20-in ID carbon steel casing, Surface-198-ft w/steel drive shoe

16-in ID carbon steel casing, Surface-346-ft w/steel drive shoe

Hole diameter,
0-198-ft, 21-in nominal
198-346-ft, 17-in nominal
346-938-ft, 16-in nominal
NOTE: Hole diameter may be less than 16-in. However, a pump test was documented in 16-in hole to 938-ft.

12-in ID carbon steel liner, 334-491-ft
Lead packer at top,
Drive shoe at bottom

10-in ID carbon steel liner, 481-636-ft
Lead packer at top,
Drive shoe at bottom

10-in casing perforations, 613-624-ft, 9 cuts/ft/¾x4-in

8-in ID carbon steel liner, 603-710-ft
Lead packer at top,
Drive shoe at bottom

6-in ID carbon steel liner, 701-891-ft
Lead packer at top,
Drive shoe at bottom

Borehole drilled depth: [938-ft]

Drawing By: RKL/6N107W79.ASB
Date: 04Nov93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-107-79

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[Yes] Well is in use

3. Is well presently in use?
[Yes] Community water supply

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[Yes] Surface casing grouted, entrance casing into basalt

4a. Natural barriers preserved?
[ND] Interbeds may be open

4b. Aquifer/strata pentrated permanently sealed?
[ND] Not documented

4c. Annulus sealed against surface water?
[Yes] Has sealed surface casing and concrete pad

4d. Casing overlap more than 8 ft; packed and grouted?
[Yes] Casing is packed

5. If not in use, is well capped IAW WAC 173-160-085?
[N/A]

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is not resource protection well

6a. Saturated formation/aquifers not connected?
[N/A]

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A]

6c. Well properly indentified?
[N/A]

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-107-79

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Protland OR Date: 05/10/52 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
N/A

Field Check: WHC GWWS Date: 07/08/93 Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is in beneficial use as a water supply well. Documented construction is acceptable for water well use except that lead packers were used for completion.

15. Status

Well is acceptable for intended use	[No]	Well contains lead packers
Well is acceptable for intended use if variance is granted	[Yes]	Variance for lead packers
Rehabilitation required to continue intended use	[No]	Well is in use
Remediation required to achieve intended use	[No]	Not required
Decommission, well is unneeded or cannot be remediated	[No]	Well is in beneficial use
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: 05Nov51

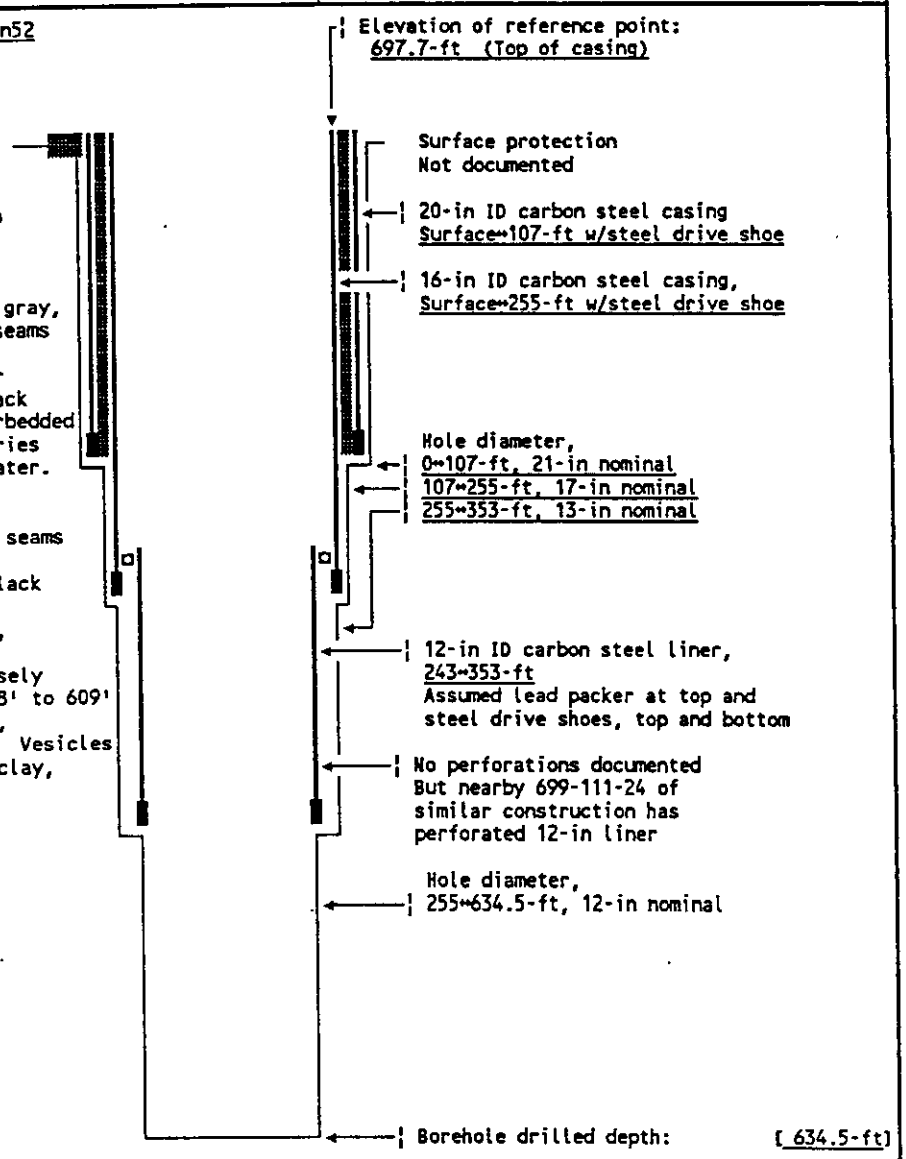
Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 15Jan52

WELL NUMBER: 699-108-20
TEMPORARY WELL NO: PSN 500-1
Hanford Coordinates: N/S N 108,000 E/W W 20,000
State Coordinates: Lat 46°44'09" Long 119°24'18"
N 513,250 E 2,275,048
Start Card #: Not documented
T14N R27E 2C1
Elevation Ground surface: 697.7-ft Estimated

Depth to water: 287-ft 29Jan52

GENERALIZED Driller's STRATIGRAPHY Log

0-109: CLAY, hard, compact white
109-148.5: SHALE, red-brown
148.5-151: SAND lens
151-204: SHALE, red-brown
204-208: CLAY, blue
208-254: BASALT, brown and gray, hard, green CLAY seams
254-269: BASALT, black somewhat vesicular
269-294: BASALT, dense, black
294-350: BASALT, with interbedded Sand lenses. Carries small amount of water.
350-509: BASALT, dense, gray to black
509-527: BASALT, gray with seams of blue CLAY
527-604: BASALT, gray to black
604-608: BASALT, gray with soapstone streaks, water bearing
608-614: BASALT, gray, closely fractured from 608' to 609'
614-620: BASALT, vesicular, slightly altered. Vesicles coated with blue clay, water bearing
620-634.5: BASALT



Drawing By: RKL/6N108W20.ASB
Date: 04Nov93
Reference: HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: 05Nov51

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location Portland, OR
Date Complete: 15Jan52

WELL NUMBER: 699-108-20
Hanford Coordinates: N/S N 108,000 E/W W 20,000
State Lat 46°44'09" Long 119°24'18"
Coordinates: N 513,250 E 2,275,048
Start Card #: Not documented
Elevation Ground surface (ft): 697.7-ft Estimated

TEMPORARY WELL NO: PSN 500-1
T14N R27E 2C1

Depth to water: 287-ft 29Jan52

DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)

[1] Locate well.

[2] Clean out to bottom. Run TV.

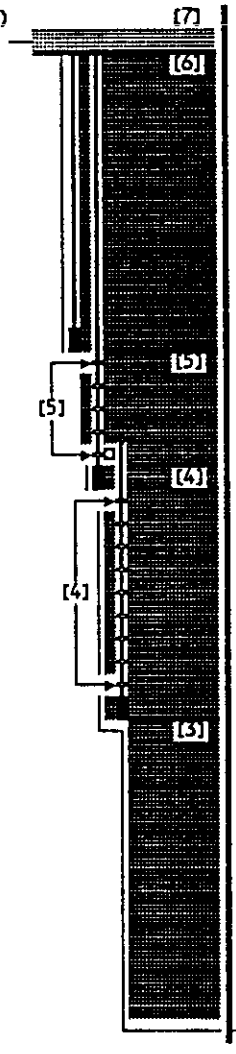
[3] Cement grout open hole, 255-634.5-ft in <100-ft stages w/tremmie pipe.

[4] Perforate 12-in liner 245-350-ft. Grout w/neat cement using tremmie pipe.

[5] Perforate 16-in casing, 110-240-ft and pressure grout w/neat cement in 1-2 stages.

[6] Fill interior of 16-in casing to ~3-ft below ground surface.

[7] Cut casing @ 3-ft, place concrete or metal cap, fill to grade and compact.



Elevation of reference point: 697.7-ft (Top of casing)

Surface protection not documented

20-in casing, surface-107-ft
Carbon steel w/steel drive shoe
Cement grout assumed

16-in casing, surface-255-ft
carbon steel w/steel drive shoe

Lead packer assumed at top of 12-in liner

12-in liner 243-353-ft
drive shoe assumed at bottom of liner

No perforations documented
But nearby 699-111-24 of similar construction has perforated 12-in liner

Hole diameter ~12-in, 255-634.5-ft

Depth bottom of borehole [634.5-ft]

Drawing By: RKL/6N108W24.PLN
Date: 18Aug93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-108-20

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Unable to locate well

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND] Not documented

4a. Natural barriers preserved?
[ND] Not documented

4b. Aquifer/strata pentrated permanently sealed?
[ND] Not documented

4c. Annulus sealed against surface water?
[ND] Not documented

4d. Casing overlap more than 8 ft; packed and grouted?
[ND] Not documented

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Not documented

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is not a resource protection well, may not be drilled

6a. Saturated formation/aquifers not connected?
[N/A]

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A]

6c. Well properly indentified?
[ND] Unable to locate

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-108-20

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Portland OR Date: 01/15/52 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
N/A

Databases:
N/A

Field Check: N/A Date: Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Unable to locate well. Decommission if located.

15. Status

Well is acceptable for intended use	[ND]	Not documented
Well is acceptable for intended use if variance is granted	[ND]	Not documented
Rehabilitation required to continue intended use	[ND]	Not documented
Remediation required to achieve intended use	[ND]	Not documented
Decommission, well is unneeded or cannot be remediated	[Yes]	Decommission if located
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Within 1951

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 20Jan52

WELL NUMBER: 699-111-24
Hanford Coordinates: N/S N 111,000 E/W W 24,000
State Coordinates: N 516,240 E 2,271,040
Start Card #: Not documented T15N R27E S34L
Elevation Ground surface: Not documented

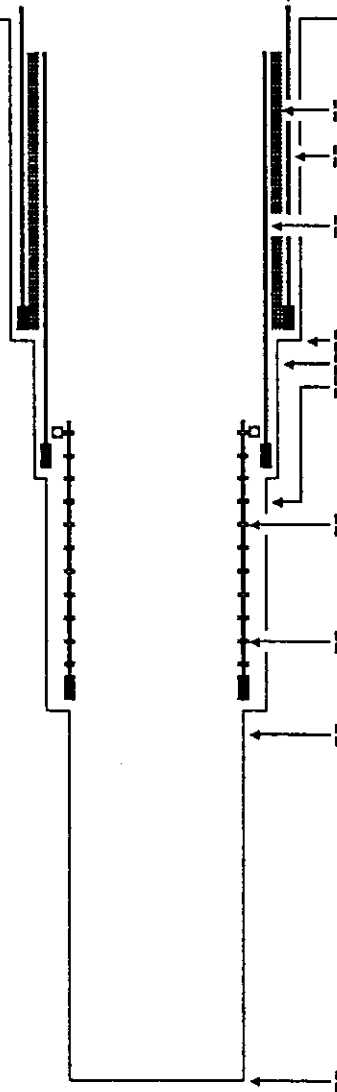
TEMPORARY WELL NO: PSN 500-1

Depth to water: 271-ft Jan52

Elevation of reference point: 699.14 ft (Top of casing)

GENERALIZED Driller's STRATIGRAPHY Log

0-109: TOPSOIL and CLAY
109-208: Reddish-brown SHALE
208-219: Brown & grey ROCK
219-229: Alternate layers- hard & soft ROCK
229-238: Hard grey BASALT- green CLAY seams
238-269: Porous black BASALT
269-297: Hard black BASALT
297-351: Porous black BASALT w/interbedding of SAND (40 gpm water)
351-509: Hard black and grey BASALT
509-535: Grey BASALT- blue CLAY in seams
535-603: Grey and black BASALT
603-628: Grey porous BASALT
628-636: Hard BASALT



Type of surface protection: Cement pump pad
Grout between 16 and 20-in casings,
20-in ID carbon steel casing, Surface-108-ft w/steel drive shoe
16-in ID carbon steel casing, Surface-255-ft w/steel drive shoe
Hole diameter,
0-108-ft, 21-in nominal
108-255-ft, 17-in nominal
255-353.5-ft, 13-in nominal
12-in ID carbon steel liner, 245-353.5-ft w/steel drive shoe
May have lead packer at top
12-in liner perforations, 245-353-ft, 12/ft/½x4-in
Hole diameter,
353.5-636.0-ft, 12-in nominal
Borehole drilled depth: (636.0-ft)

Drawing By: RKL/6N111W24.ASB
Date: 04Nov93
Reference:

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Within 1951

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 20Jan52

WELL NUMBER: 699-111-24
TEMPORARY WELL NO: PSN 500-1
Hanford Coordinates: N/S N 111,000 E/W W 24,000
State Coordinates: N 516,240 E 2,271,040
Start Card #: Not documented T15N R27E S34L
Elevation Ground surface (ft): Not documented

Depth to water: 271-ft Jan52

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

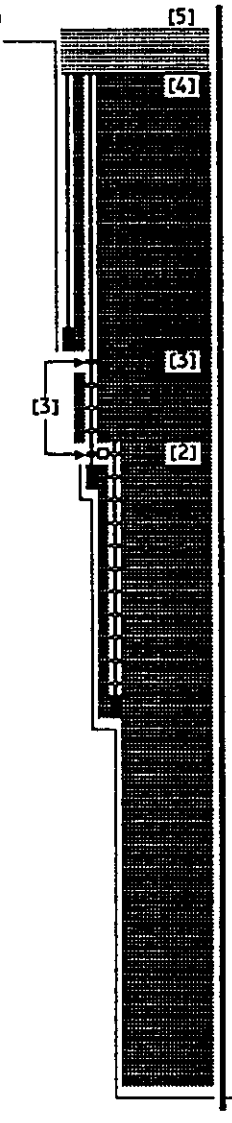
[1] Clean ou to bottom. Run TV.

[2] Grout w/neat cement 250-636-ft in <100-ft stages using tremmie pipe.

[3] Perforate 16-in casing, 110-240-ft and pressure grout in two stages.

[4] Fill 16-in casing to ~3-ft below ground surface w/neat cement.

[5] Cut casings @ ~3-ft, place concrete or metal cap, fill to grade and compact.



Elevation of reference point: 699.14 ft (Top of casing)

Type of surface protection: Cement pump pad
Grout between 16-20-in casing

20-in casing, surface-108-ft
Carbon steel w/steel drive shoe
Cement grout assumed

16-in casing, surface-255-ft
carbon steel w/steel drive shoe

Lead packer assumed at top of 12-in liner

12-in liner 245-353.5-ft
w/steel drive shoe

Perforated 245-353-ft (HANFORD WELLS)
3/8-in by 4-in 12/ft

Hole diameter ~12-in, 353.5-636.0-ft

Depth bottom of borehole: [636.0-ft]

Drawing By: RKL/6N111W24.PLN
Date: 28Sep93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-111-24

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Well is abandoned, but has not been decommissioned

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND] Not documented

4a. Natural barriers preserved?
[ND] Not documented

4b. Aquifer/strata pentrated permanently sealed?
[ND] No documented

4c. Annulus sealed against surface water?
[Yes] Has surface pad, assumed surface casing grouted

4d. Casing overlap more than 8 ft; packed and grouted?
[Yes] Upper casing assumed grouted, has lead packers

5. If not in use, is well capped IAW WAC 173-160-085?
[ND] Metal plate cap

6. Is design and construction IAW WAC 173-160-500?
[N/A] Not resource protection well

6a. Saturated formation/aquifers not connected?
[N/A]

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A]

6c. Well properly indentified?
[N/A]

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-111-24

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Portland OR Date: 01/20/52 Company:
Geologist: NA Date: Company:
Geophysical: NA Date: Company:
Television: NA Date: Company:

Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989

Databases:
N/A

Field Check: N/A Date: Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[5] Well is not in use and has no documented need for use. Decommissioning is recommended. See attached diagrammatic well decommissioning plan.

15. Status

Well is acceptable for intended use	[No]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[No]	Rehabilitation required
Rehabilitation required to continue intended use	[Yes]	Cleanout/redevelop
Remediation required to achieve intended use	[No]	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 29Jan54

WELL NUMBER: 699-112-37
Hanford Coordinates: N/S N 111,737 E/W W 36,569
State Coordinates: N 516,945 E 2,258,469
Start Card #: Not documented T15N R27E S32E
Elevation Ground surface: Not documented

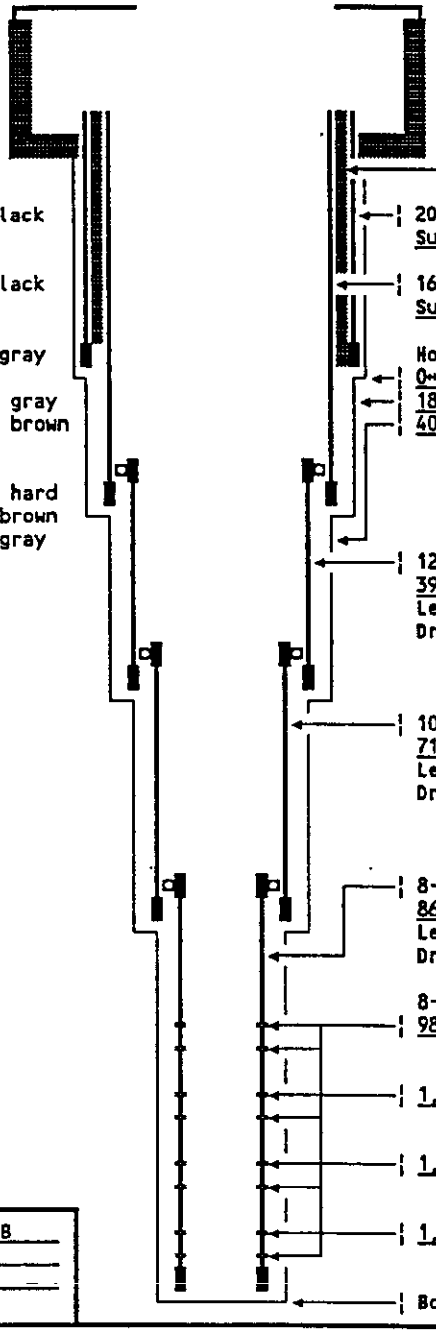
TEMPORARY WELL NO: PSN 535, #8

Depth to water: 262-ft Jan54

Elevation of reference point: 741.82 ft (Southwest corner)

GENERALIZED Driller's STRATIGRAPHY Log

0-3: TOP SOIL
3-277: CALICHE and CLAY, some SAND
277-372: BASALT, porous black and gray
372-404: CLAY, SAND, TALUS
404-565: BASALT, gray and black
565-575: CLAY, gray
575-580: Coarse SAND, CLAY
580-765: BASALT, gray and black
765-862: CLAY, blue, yellow w/broken BASALT
862-982: BASALT, black and gray
982-998: BASALT, brown (W)
998-1034: BASALT, black and gray
1,034-1,038: CINDERS, red & brown
1,038-1,067: BASALT, black
1,067-1,077: BASALT, brown
1,077-1,107: BASALT, black, hard
1,107-1,115: BASALT, light brown
1,115-1,123: BASALT, hard, gray



Type of surface protection: Concrete pump housing
Grout between 16-20-in casings
20-in ID carbon steel casing Surface-188-ft w/steel drive shoe
16-in ID carbon steel casing Surface-405-ft w/steel drive shoe
Hole diameter,
0-188-ft, 21-in nominal
188-405-ft, 17-in nominal
405-720-ft, 13-in nominal
12-in ID carbon steel liner, 395-720-ft
Lead packer at top,
Drive shoes at top and bottom
10-in ID carbon steel liner, 711-873-ft
Lead packer at top,
Drive shoes at top and bottom
8-in ID carbon steel liner, 863-1,123-ft
Lead packer at top,
Drive shoes at top and bottom
8-in liner perforations,
982-995-ft, 9/ft/¾x4-in
1,034-1,038-ft, 9/ft/¾x4-in
1,067-1,077-ft, 9/ft/¾x4-in
1,107-1,115-ft, 9/ft/¾x4-in
Borehole drilled depth: [1,123-ft]

Drawing By: RKL/6N112W37.ASB
Date: 04Nov93
Reference:

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented
Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 29Jan54

WELL NUMBER: 699-112-37
TEMPORARY WELL NO: PSN 535, #8
Hanford Coordinates: N/S N 111,737 E/W W 36,569
State Coordinates: N 516,945 E 2,258,469
Start Card #: Not documented T15N R27E S32E
Elevation Ground surface (ft): Not documented

Depth to water: 262-ft Jan54

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Clean hole to bottom. Run TV.

[2] Perforate 8-in liner, 865-1,120-ft. Cement grout w/tremmie pipe in <100-ft stages. Well diameter may be greater than 8-in. Cement volumes and fillup should be closely monitored.

[3] Perforate 10-in liner, 715-860-ft. Cement grout w/tremmie pipe in <100-ft stages.

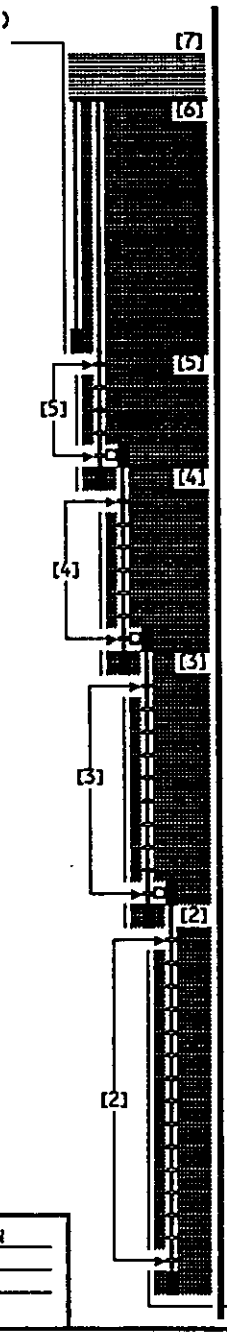
[4] Perforate 12-in liner, 400-710-ft. Cement grout w/tremmie pipe in <100-ft stages.

[5] Perforate 16-in casing, 190-390-ft and pressure grout in two stages.

[6] Fill 16-in casing to bottom of pump structure w/cement grout.

[7] Remove pump structure and pad. Place concrete or metal cap. Fill to grade and compact.

NOTE:
Order of work to be determined by field conditions.



Elevation of reference point: 741.82 ft (Southwest corner)

Type of surface protection: Cement pump housing Grout between 16-20 in casing

20-in casing, surface-188-ft
Carbon steel w/steel drive shoe
Cement grout assumed

16-in casing, surface-405-ft
carbon steel w/steel drive shoe

Lead packer at top of 12-in liner

12-in liner 395-720-ft
drive shoes at top and bottom of liner

Lead packer at top of 10-in liner

10-in liner 711-873-ft
drive shoes at top and bottom of liner

Lead packer at top of 8-in liner

8 in liner 863-1,123-ft
drive shoes at top and bottom

Perforated 982-995-ft
9 per/ft, 3/8x4-in

Perforated 1,034-1,038-ft
9 per/ft, 3/8x4-in

Perforated 1,067-1,077-ft
9 per/ft, 3/8x4-in

Perforated 1,107-1,115-ft
9 per/ft, 3/8x4-in

Bottom of borehole 1,123-ft

Drawing By: RKL/6N112W37.PLN
Date: 18Aug93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-112-37

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No documented use

3. Is well presently in use?
[No] Well is abandoned, but has not been decommissioned

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[ND] Not documented

4a. Natural barriers preserved?
[ND] Not documented

4b. Aquifer/strata pentrated permanently sealed?
[ND] Not documented

4c. Annulus sealed against surface water?
[Yes] Has concrete pump housing and surface casing

4d. Casing overlap more than 8 ft; packed and grouted?
[Yes] Casing overlaps, has lead packers

5. If not in use, is well capped IAW WAC 173-160-085?
[Yes] Has steel plate

6. Is design and construction IAW WAC 173-160-500?
[N/A] Not a resource protection well

6a. Saturated formation/aquifers not connected?
[N/A]

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A]

6c. Well properly indentified?
[N/A]

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-112-37

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Portland OR Date: 01/29/54 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
N/A
Field Check: WHC GWWS Date: 07/08/93 Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented need for use. Decommissioning is recommended. See attached diagrammatic well decommissioning plan.

15. Status

Well is acceptable for intended use	[No]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[No]	Rehabilitation required
Rehabilitation required to continue intended use	[Yes]	Cleanout/redevelop
Remediation required to achieve intended use	[No]	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 01Sep53

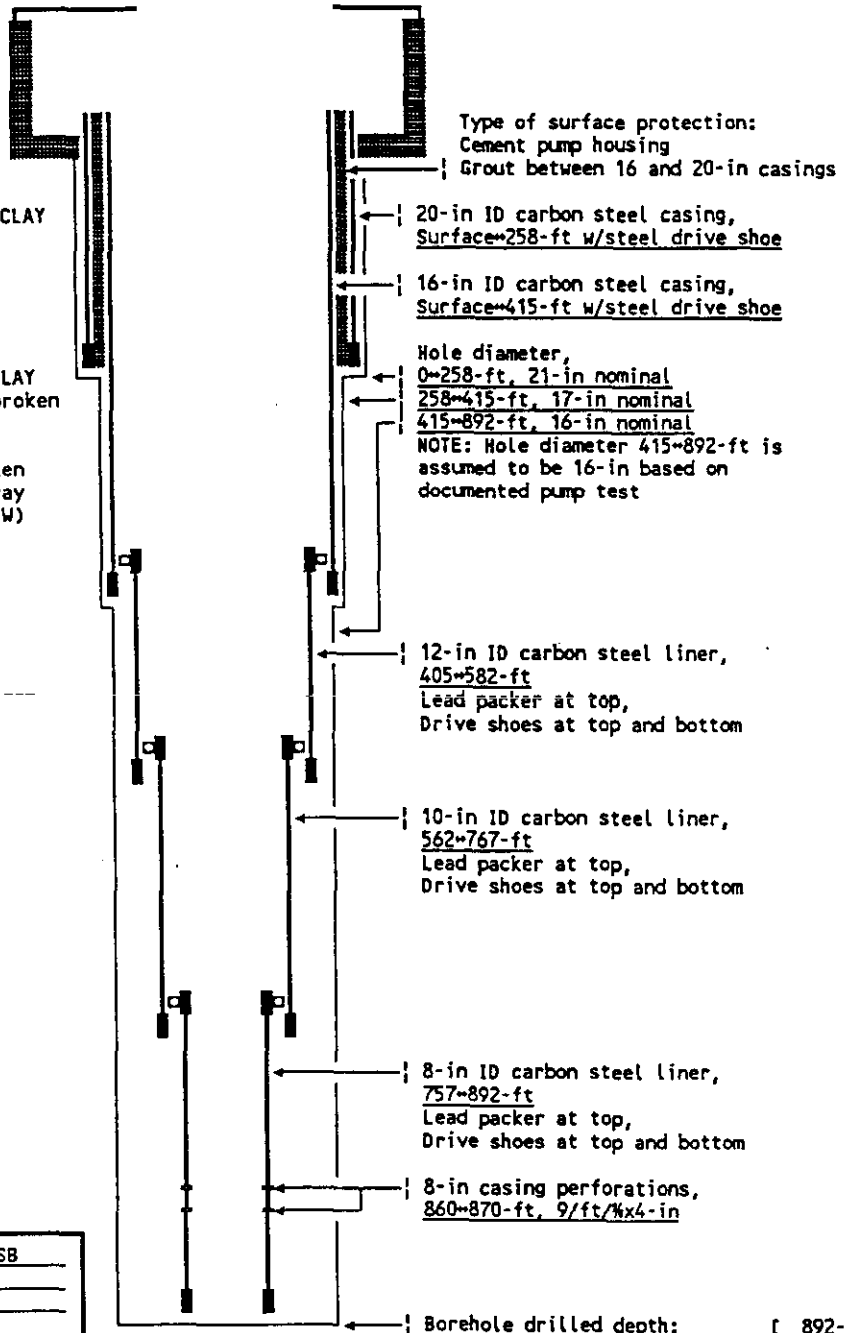
WELL NUMBER: 699-115-61
TEMPORARY WELL NO: PSN 420, #7
Hanford Coordinates: N/S N 114,633 E/W W 60,557
State Coordinates: N 519,779 E 2,234,474
Start Card #: Not documented T15N R26E S28Q
Elevation Ground surface: Not documented

Depth to water: 317-ft Sep53
(Ground surface) 298.1-ft Jun90

Elevation of reference point: 790.60 ft (Top Steel Plate)

GENERALIZED Driller's STRATIGRAPHY Log

0-13: TOPSOIL
13-16: CLAY and GRAVEL
16-23: Brown SAND
23-216: Brown and gray CLAY
216-276: CLAY and SAND, brown and gray
276-298: Broken BASALT and CLAY
298-341: Hard gray BASALT
341-360: Porous black ROCK w CLAY
360-366: Yellow CLAY
366-398: Porous black ROCK
398-522: Gray BASALT
522-558: Gray, red, brown CLAY
558-660: BASALT, gray and broken
660-788: Yellow, brown and gray CLAY
788-861: BASALT, gray, broken
861-868: Red, yellow and gray broken (BASALT?) (W)
868-892: Gray BASALT



Type of surface protection: Cement pump housing
Grout between 16 and 20-in casings
20-in ID carbon steel casing, Surface-258-ft w/steel drive shoe
16-in ID carbon steel casing, Surface-415-ft w/steel drive shoe
Hole diameter,
0-258-ft, 21-in nominal
258-415-ft, 17-in nominal
415-892-ft, 16-in nominal
NOTE: Hole diameter 415-892-ft is assumed to be 16-in based on documented pump test
12-in ID carbon steel liner, 405-582-ft
Lead packer at top,
Drive shoes at top and bottom
10-in ID carbon steel liner, 562-767-ft
Lead packer at top,
Drive shoes at top and bottom
8-in ID carbon steel liner, 757-892-ft
Lead packer at top,
Drive shoes at top and bottom
8-in casing perforations, 860-870-ft, 9/ft/½x4-in
Borehole drilled depth: [892-ft]

Drawing By: RKL/6N115W61.ASB
Date: 04Nov93
Reference: HANFORD WELLS

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool
Drilling Fluid Used: Not documented
Driller's Name: R. J. Strasser (?)
Drilling Company: Strasser Drilling Co
Date Started: Not documented

Sample Method: Hard tool
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Portland, OR
Date Complete: 01Sep53

WELL NUMBER: 699-115-61
TEMPORARY WELL NO: PSN 420, #7
Hanford Coordinates: N/S N 114,633 E/W W 60,557
State Coordinates: N 519,779 E 2,234,474
Start Card #: Not documented T15N R26E S28Q
Elevation Ground surface (ft): Not documented

Depth to water: 317-ft Sep53

Elevation of reference point: 790.60 ft (Top Steel Plate)

DIAGRAMMATIC DECOMMISSIONING PLAN (Depths from ground surface)

[1] Clean out to bottom. Run TV.

[2] Perforate 8-in liner, 760-890-ft. Cement grout w/tremmie pipe in <100-ft stages. Cement volumes and fill up should be closely monitored. Hole size may be less than 16-in.

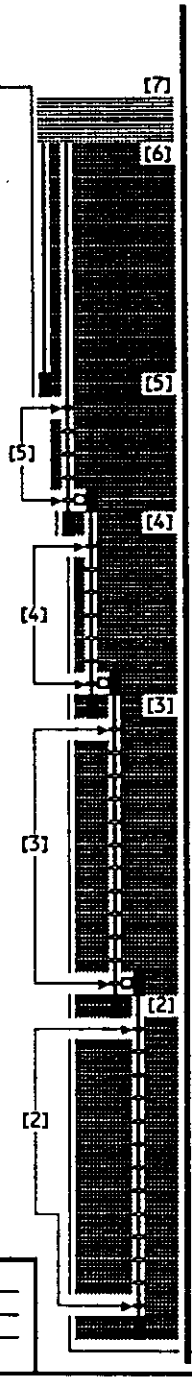
[3] Perforate 10-in liner, 565-755-ft. Cement grout w/tremmie pipe in <100-ft stages.

[4] Perforate 12-in liner, 410-560-ft. Cement grout w/tremmie pipe in <100-ft stages.

[5] Perforate 16-in casing, 260-400-ft and pressure grout in 2 stages.

[6] Fill 16-in casing to bottom of pump structure w/cement grout.

[7] Remove pump structure and pad. Place concrete or metal cap. Fill to grade and compact.



Type of surface protection: Cement pump housing
Grout between 16-20 in casing

20-in casing, surface-258-ft
Carbon steel w/steel drive shoe
Cement grout assumed

16-in casing, surface-415-ft
carbon steel w/steel drive shoe

Lead packer at top of 12-in liner

12-in liner 405-582-ft
drive shoes at top and bottom of liner

Lead packer at top of 10-in liner

10-in liner 562-767-ft
drive shoes at top and bottom of liner

Hole diameter, 258-892-ft is assumed to be 16-in based on documented pump test

Lead packer at top of 8-in liner

8-in liner 757-892-ft
drive shoes at top and bottom

Perforated 860-870-ft
9 per/ft, 3/8x4-in

Bottom of borehole 892-ft

Drawing By: RKL/6N115W61.PLN
Date: 18Aug93
Reference:

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-115-61

Page 1 of 2

2. Has a need for use of the well been identified and documented?
   [No] No documented use
3. Is well presently in use?
   [No] Well is abandoned, but has not been decommissioned
4. Is casing sealed in accordance with IAW WAC 173-160-075?
   [ND] Not documented
   4a. Natural barriers preserved?
   [ND] Not documented
   4b. Aquifer/strata pentrated permanently sealed?
   [ND] Not documented
   4c. Annulus sealed against surface water?
   [Yes] Has concrete housing and surface casing
   4d. Casing overlap more than 8 ft; packed and grouted?
   [Yes] Casing overlaps, has lead packers
5. If not in use, is well capped IAW WAC 173-160-085?
   [Yes] Has steel plate
6. Is design and construction IAW WAC 173-160-500?
   [N/A] Well is not resource protection well
   6a. Saturated formation/aquifers not connected?
   [N/A]
   6b. Cuttings/development water handled IAW WAC 173-303?
   [N/A]
   6c. Well properly indentified?
   [N/A]
7. Is surface protection IAW WAC 173-160-510?
   [N/A]
   7a. Well capped and protected?
   [N/A]
   7b. Protective posts, surface pad or cover installed?
   [N/A]
   7c. Surface protection waived or variance obtained?
   [N/A]
   7d. Is existing surface protection damaged?
   [N/A]
8. Are casing materials IAW 173-160-520?
   [N/A]
9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
   [N/A]
   9a. Drill rig/equipment casing/screen cleaned?
   [N/A]
   9b. Filter pack cleaned? Material compatible?
   [N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
    [N/A]
    10a. Screened interval documented?
    [N/A]
    10b. Vertical lithology documented?
    [Yes] Driller's log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-115-61

Page 2 of 2

11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Strasser Drilling Portland OR Date: 09/01/53 Company:
Geologist: N/A Date: Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:
Publications: Title, Author, Date
HANFORD WELLS, V. L. McGhan, June 1989
Databases:
N/A
Field Check: WHC GWWS Date: 07/08/93 Company:
Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is not in use and has no documented need for use. Decommissioning is recommended. See attached diagrammatic well decommissioning plan.

15. Status

Well is acceptable for intended use	[No]	Rehabilitation required
Well is acceptable for intended use if variance is granted	[No]	Rehabilitation required
Rehabilitation required to continue intended use	[Yes]	Cleanout/redevelop
Remediation required to achieve intended use	[No]	Acceptable water well const.
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[N/A]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/21/93

A-6000-451R (06/93)

WELL CONSTRUCTION AND COMPLETION SUMMARY

Drilling Method: Cable tool/coring
Drilling Fluid Used: Bentonite mud
Driller's Name: Not documented
Drilling Company: Boyles Bros
Date Started: Core 08Jul71

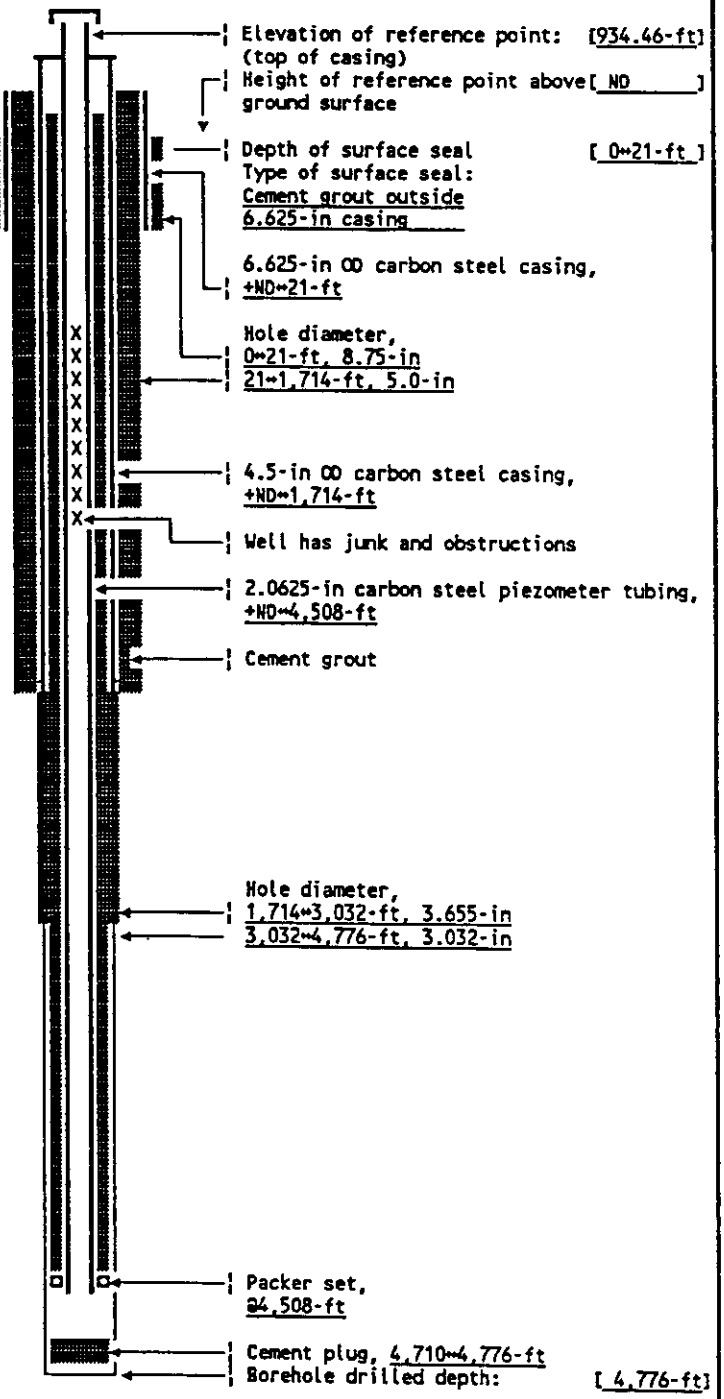
Sample Method: Wireline core
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Spokane, WA
Date Complete: Core 16Nov71

WELL NUMBER: 699-115-7
TEMPORARY WELL NO: DH-4
Hanford Coordinates: N/S N 115,430 E/W W 7,321
State Coordinates: N 520,713 E 2,287,791
Start Card #: Not documented T 15N R 28E S 30N1
Elevation Ground surface: 928.6-ft Estimated SE 1/4 of SE 1/4

Depth to water: Not documented
(Ground surface)

GENERALIZED Geologist's STRATIGRAPHY Log

0-44: BASALT (Elephant Mt Member)
44-45: TUFFSTONE (Rattlesnake Ridge Int)
45-167: BASALT (Pomona Member)
167-344: BASALT (Asotin Mem-Huntzinger)
344-401: BASALT (Wilbur Creek Mem-Wahluke)
401-424: TUFFSTONE-CLAY: (Mabton Int)
424-507: BASALT (Priest Rapids Mem-Lolo)
507-509: CLAY, tuffaceous (Unnamed Int)
509-621: BASALT (Priest Rapids-Rosalia)
621-623: SANDSTONE (Quincy Int)
623-814: BASALT (Roza Mem-2 units)
814-816: SANDSTONE (Squaw Creek Int)
816-1,479: BASALT (Frenchman Springs Mem-9 units)
1,479-1,489: SANDSTONE (Vantage Int)
1,489-4,776: BASALT (Grande Ronde Fm->35 units)



Drawing By: RKL/6N115W07.ASB
Date : 25Oct93
Reference :

DIAGRAMMATIC WELL DECOMMISSIONING PLAN

Drilling Method: Cable tool/coring
Drilling Fluid Used: Bentonite mud
Driller's Name: Not documented
Drilling Company: Boyles Bros
Date Started: Core 08Jul71
Date Complete: Core 16Nov71

Sample Method: Wireline core
Additives Used: Not documented
WA State Lic Nr: Not documented
Company Location: Spokane, WA

WELL NUMBER: 699-115-7
TEMPORARY WELL NO: DH-4
Hanford Coordinates: N/S N 115,430 E/W W 7,321
State Coordinates: N 520,713 E 2,287,791
Start Card #: Not documented T 15N R 28E S 30N1
Elevation Ground surface: 928.6-ft Estimated
SE 1/4 of SE 1/4

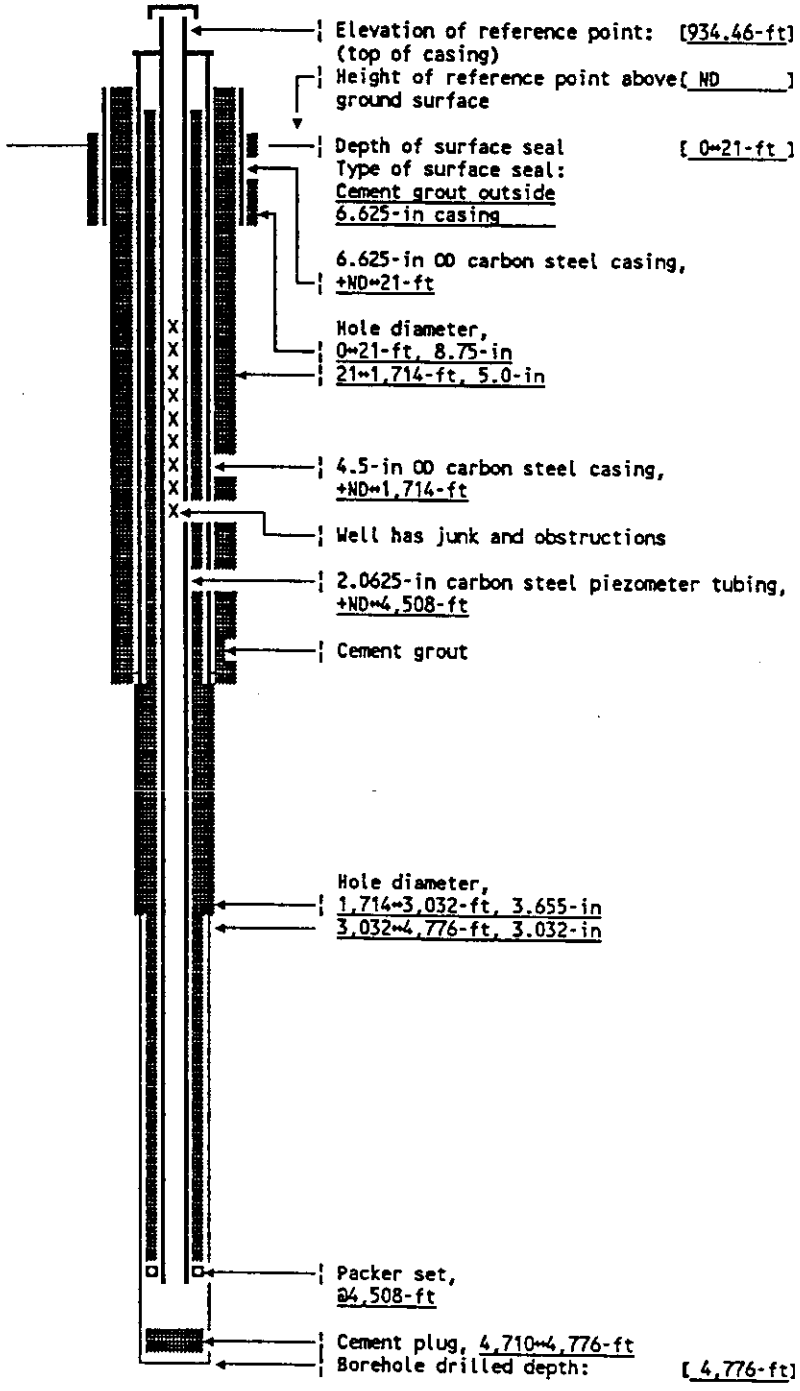
Depth to water: Not documented
(Ground surface)

DIAGRAMMATIC DECOMMISSIONING PLAN
(Depths from ground surface)

[1] Remove obstructions from piezometer tubing to bottom, OR:
Cleanout well to top of obstructions if unable to remove.

[2] Grout tubing with neat cement or bentonite grout from bottom of well or top of obstruction. Grout in stages as determined in field to about 3-ft below ground surface.

[3] Cut casing at ~3-ft, place cement or metal cap. Fill excavation to grade with local soil and compact.



Drawing By: RKL/6N115W07.PLN
Date : 25Oct93
Reference :

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-115-7

Page 1 of 2

2. Has a need for use of the well been identified and documented?
[No] No identified user

3. Is well presently in use?
[No] Well has been plugged since drilling

4. Is casing sealed in accordance with IAW WAC 173-160-075?
[Yes] Multiple grouted casings

4a. Natural barriers preserved?
[Yes] Interbeds grouted

4b. Aquifer/strata pentrated permanently sealed?
[Yes] Upper aquifers grouted

4c. Annulus sealed against surface water?
[Yes] Surface casing to 21-ft

4d. Casing overlap more than 8 ft; packed and grouted?
[Yes] All casing overlap

5. If not in use, is well capped IAW WAC 173-160-085?
[Yes] Has locked threaded cap

6. Is design and construction IAW WAC 173-160-500?
[N/A] Well is characterization not monitoring well

6a. Saturated formation/aquifers not connected?
[Yes] Upper aquifers grouted off

6b. Cuttings/development water handled IAW WAC 173-303?
[N/A] Drilled before applicable date of WAC 173-303

6c. Well properly indentified?
[No] No permanent identification

7. Is surface protection IAW WAC 173-160-510?
[N/A]

7a. Well capped and protected?
[N/A]

7b. Protective posts, surface pad or cover installed?
[N/A]

7c. Surface protection waived or variance obtained?
[N/A]

7d. Is existing surface protection damaged?
[N/A]

8. Are casing materials IAW 173-160-520?
[N/A]

9. Was drill rig/drilling equipment cleaned IAW WAC 173-160-530?
[N/A]

9a. Drill rig/equipment casing/screen cleaned?
[N/A]

9b. Filter pack cleaned? Material compatible?
[N/A]

RCRA/CERCLA MONITORING WELL?

10. Does water sample from vertical screened interval represent horizontal stratigraphy?
[N/A]

10a. Screened interval documented?
[N/A]

10b. Vertical lithology documented?
[Yes] Geologist's core log

A-6000-451 (06/93)

RESOURCE PROTECTION GROUNDWATER WELL STRUCTURE FITNESS FOR USE CHECKLIST

1. Well No. 699-115-7

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11. Is design and construction IAW WAC 173-160-540?
[N/A]

11a. Screen commercially fabricated of material nonreactive to subsurface conditions?
[N/A]

11b. If filter pack installed, extends from bottom of screen to at least 3 ft above screen.
[N/A]

11c. Well has been developed.
[N/A]

11d. Annulus grouted with bentonite or bentonite/cement mixture.
[N/A]

12. Does water sample meet established acceptance criteria?
Sample is less than 5 NTU and sand free.
[N/A]

13. Data Sources Used:
Logs:
Driller's: Boylea Brothers, Spokane WA Date: 11/16/71 Company:
Geologist: Atlantic Richfield Co Date: 11/16/71 Company:
Geophysical: N/A Date: Company:
Television: N/A Date: Company:

Publications: Title, Author, Date
Hole History, Corehole DH-4 and DH-5, 1972, Fenix and Scisson, Richland, WA

Databases:
N/A

Field Check: N/A Date: Company:

Other:

14. Comments: Identify evaluation criteria addressed by number:
[15] Well is unneeded and has never been usable. Well should be decommissioned.

15. Status

Well is acceptable for intended use	[No]	Well is plugged
Well is acceptable for intended use if variance is granted	[No]	Well is not usable
Rehabilitation required to continue intended use	[No]	Well is unneeded
Remediation required to achieve intended use	[No]	Not economic
Decommission, well is unneeded or cannot be remediated	[Yes]	Well is unneeded
Other	[ ]	

16. Status Recommendation
Done By: Name: R. K. Ledgerwood Title: Principal Scientist Date: 10/29/93

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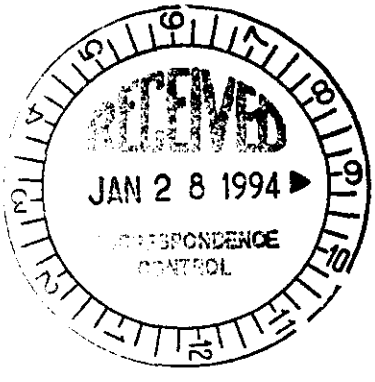

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